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The Sports Section was responsible for planning and organising the Olympic competitions and ensuring that the competition conditions were equal for all athletes. This involved:

- Ensuring that all Olympic arenas satisfied the requirements specified by the international sports organisations and the IOC.
- Hiring and training staff.
- Participating in planning and organising the training and test events in advance of the Winter Games.
- Maintaining all relations to the national Olympic committees and the international sports organisations.
- Setting up training and competition schedules in cooperation with international sports organisations and broadcasting rights-owners.

The Olympic Charter specifies that all athletic competitions must be organised in accordance with the international sports organisations’ regulations, and the Sports Section was organised based on the various Olympic winter sports. The six international sports organisation involved were:

- FIBT: The International Bobsleigh Association
- FIL: The International Luge Association
- IIHF: The International Ice hockey Association
- ISU: The International Skating Association
- FIS: The International Skiing Association
- UIPMB: The International Biathlon Association

Organisation

The Sports Section was organised within the LOOC Events Division until October 1993, after which it became a separate department led by a sports manager/director. The following projects were led by a project manager:

- Luge and Bobsleigh
- Ice hockey
- Skating
- Nordic skiing and biathlon
- Alpine and freestyle

As of 1992, Freestyle was organised as a separate project.
The various projects were staffed and organised with a consultant for each discipline. The consultants had daily follow-up responsibility for the various sports committees and Team ’94 members.

The staff was gradually increased. From 1989 to 1994, the number rose from one to 31 employees.

Events Committees
In 1989, the Norwegian sports associations established events committees for each sport. These committees coordinated the work for their sport and established committees for each sports discipline. The events committees were disbanded in 1992 after the most important coordination work had been completed, and the sub-committees worked independently. The leaders in each events committee continued as coordinators assisting the sports managers.

Sports committees
The sports committees were responsible for seeing to it that the technical staging of the Olympic competitions was done in accordance with international rules and LOOC’s aims for the Lillehammer Games.

Together with the project managers and consultants, the sports committees developed contingency plans, organisational plans, staffing plans and training plans.

Team ’94 members
The main principle for recruiting Team ’94 members to work in the Sports Section was that they had to have considerable expertise in the sport that they were going to work with. It was important to try to recruit local people, so that after the Games there would be sufficient local expertise to be able to stage major international athletic competitions in the Olympic arenas.
In sports with little or no local expertise (Short track, Luge, Bobsleigh and Freestyle) the staff was recruited to a large extent from other parts of Norway. Persons who lacked experience in a specific sport were put through an extensive training programme.

Emphasis was put on giving all Team '94 members meaningful tasks and ensuring as little “idle” time during the Games as possible. The focus was put on a coordinated use of the Team '94 members.

In all, the 2149 members were distributed as follows:
Alpine Kvitfjell.................................................................391
Alpine Hafjell.................................................................352
Bobsleigh and Luge......................................................122
Cross country...............................................................381
Biathlon............................................................................214
Ski jumping/Nordic combined.................................225
Freestyle...........................................................................80
Ice hockey Håkon Hall..................................................97
Ice hockey Gjøvik............................................................65
Short track.................................................................75
Figure skating...............................................................88
Speed skating...............................................................59

**Sports-related training**

In addition to basic training, the Sports Section gave all Team '94 members specific training in the various sports. Team '94 members who had management functions _ primarily leaders of the sports discipline committees _ participated in study trips to major international competitions. Information learned during these trips was communicated to the Team '94 members working with those sports disciplines. Local events and test and training events were also organised for training purposes.

**Study trips**

Study trips were completed according to detailed plans. These trips began in 1990. Many Team '94 members participated in study trips to the 1992 Winter Games in Albertville.

**Courses**

In order to offer all Team '94 members the necessary expertise to perform their assignments, LOOC Sport organised a number of sport-specific courses. A basic training course was held for disciplines for which there was little expertise in Norway. This was done to make the members aware of what expertise was useful, and to make the sports known to all the members. General courses were held for all disciplines, arena gatherings were organised for all Team '94 members and several other courses were custom-made for certain members’ needs. In short, courses were held on the
following topics: staging the Games, regulations, preparing pistes and tracks, gate keeping in alpine, track crew, time-keeping, secretariat, statistics and team/judge service (ice hockey).

Training and test events
In order to ensure that the Olympic competitions were staged satisfactorily, a number of test events were organised. The test events were divided into two categories:

Training events
Training events in the Olympic disciplines were organised for Team ’94 members. These events took place in 1991 and 1992 at non-Olympic arenas. As the Olympic arenas were finished, test events were organised to test the arenas’ facilities.

Test events
One test competition was held in each discipline. These were major international competitions (e.g. World Cup) and took place in the winter 1993 for Alpine, Freestyle, Ski jumping, Nordic combined, Cross-country skiing, Biathlon, Luge and Bobsleigh. The test events for Speed skating and Short track, Figure skating and Ice hockey were held in the autumn 1993.

The test events were also used as a total test of one or more complete Olympic function. The events were designed to simulate an Olympic event.

In all, 35 test and training events were organised as follows:

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Alpine</td>
<td>9</td>
</tr>
<tr>
<td>Luge</td>
<td>2</td>
</tr>
<tr>
<td>Bobsleigh</td>
<td>2</td>
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<td>Cross-country</td>
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<td>Biathlon</td>
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<tr>
<td>Ski jumping</td>
<td>2</td>
</tr>
<tr>
<td>Nordic combined</td>
<td>2</td>
</tr>
</tbody>
</table>

Freestyle.................................................................2
Ice hockey.................................................................2
Short track.................................................................4
Figure skating.........................................................3
Speed skating.........................................................2

Organisation of test and training events
The formal responsibility for the test and training events belonged to the respective Norwegian sports organisations. The various organisations were the formal organisers, and often the responsibility was transferred to local sports clubs. This allowed LOOC to test all desired functions.

For each event, a main committee was appointed in cooperation with the sports organisations, LOOC and the organiser. LOOC was represented in the main committee with the function that would be tested at each test event.

In order to obtain realistic tests, and in order to obtain the necessary progression of the test programme, it was necessary to organise competitions that would not be self-financing. In order to get the sports organisations to be willing to accept the formal organisational responsibility for these events, it was necessary for LOOC to guarantee to cover any financial losses. This meant that LOOC Sport closely monitored the budget and followed-up regularly the economic status of each individual event.
Evaluation and follow-up of test events
LOOC invested considerable resources in evaluating each test event. Each department evaluated their own activities, which included organisation, information flow, reporting hierarchy, as well as an evaluation of equipment and technical installations.

An overall evaluation was conducted based on questionnaires in which LOOC received feedback from the public, media representatives, Team ’94 members, athletes and coaches. The results were the basis for the changes and improvements that were made to increase the quality of the athletic competitions during the Olympic Winter Games.

Contact with international sports associations
LOOC Sport had regular contact with the international sports associations. An effort was made to establish good contacts with both the technical delegates and the management in the associations.

LOOC regularly briefed the international organisations on the progress in the Olympic preparations; and through their technical delegates, LOOC obtained approval for LOOC’s plans.

Contact was established early on with the international associations who closely followed the progress of constructing the sports arenas and approved the plans for the arenas. They also cooperated closely regarding organising the competitions, training schedules, accommodation facilities (for athletes and trainers) and the technical training of the Team ’94 members.

LOOC participated in several international congresses and conferences in the various associations in which plans were proposed and general information about the progress status was communicated.
Several times during the preparation phase, the technical delegates were invited to Lillehammer to be updated on the work in progress. During the period 1990-1992, most of the technical delegates had visited the Olympic Region at least twice a year, while in 1993 the frequency was up to four visits for each sports discipline.

**NOC Relations**

**Organisation**
The project manager for NOC relations reported to the sports manager. The position was filled on 1 August 1991. Two additional consultants were later employed.

**Areas of responsibility**
NOC-relations’ main task was to coordinate the contact between the national Olympic committees and LOOC, both during the planning phase prior to the Olympics as well as during the Olympics itself. This task involved:
- Contact and negotiations with the NOCs, as well as participation in various NOC seminars and a separate NOC seminar.
- Issuing publications: “Dossier for Chef de Mission” and “Manual for Chef de Mission”.
- Seminar for and contact with the Olympic attachés.
- Planning, staffing and operation of an NOC service centre in the Olympic Village Lillehammer and the Olympic Subsite Village Hamar.

**Visits and information to the NOCs**
Approx. 50 national Olympic committees visited Lillehammer before the Games in order to see the arenas and negotiate with LOOC. All questions from the NOCs went through NOC-relations which obtained the necessary information from other departments in LOOC. LOOC also participated in various meetings in AENOC and ANOC.

NOC-relations organised the following:
- “NOC Information Seminar 17-19 September 1992” at Lillehammer for more than 50 NOC members. A report was issued on this seminar.
- Seminar for Secretaries General and Chefs de Mission, Oslo, 14-15 May 1993, with a subsequent guided tour of all the arenas.

**Negotiations**
In all, 67 nations participated at Lillehammer. This was a new record. The IOC and LOOC agreed to limit the number of athletes participating to 3 000, which was the capacity of the Olympic Village. More athletes wanted to participate, so a strict admittance policy had to be practised for athletes, trainers and countries which exceeded the quotas specified in the existing regulations. NOC-relations’ task was to keep an overview and negotiate acceptable solutions. Cooperation partners included the IOC and the Accommodation and Accreditation Departments.

**Meetings for Chef de Mission**
NOC-relations was responsible for planning and organising conferences for Chef de Mission during the Winter Games. Emphasis was put on conducting short, effective conferences. Decision-makers from the various departments in LOOC were present.
Publications

- “NOC Information Seminar 17-19 September 1992. Report.” Published in connection with a 1992 NOC seminar in Lillehammer. This seminar provided information from all the technical departments in LOOC.
- “Dossier for Chef de Mission” was sent to 80 NOC members in 1993. This contained detailed information from all the technical departments in LOOC, as well as additional information for Chef de Mission. The demand for the document was so great that an additional issue had to be published (300 copies).
- “Manual for Chef de Mission” was sent to the participating NOC members in November 1993. This was a follow-up to “Dossier for Chef de Mission” and contained concrete and detailed information.
- “Newsletters” was a summary newsletter that was written by the Information Department for press contacts abroad. The newsletters were also sent to NOC members participating in Lillehammer. The newsletters were issued once or twice a month.

General considerations

“Dossier for Chef de Mission” and “Manual for Chef de Mission” had to be concrete, detailed, as well as easy to read. These publications helped avoid a great number of queries and avoid answering the same questions several times.
**Olympic attachés**

Twenty-seven NOC nominated attachés worked as middlemen between the NOC and LOOC before and during the Olympics. Most were Norwegian, but the former East Bloc nations appointed attachés from their own national Olympic committees. The attachés were briefed at two attaché seminars in 1993, with a subsequent guided tour to all the arenas and Olympic Villages.

The attachés received the same information as the NOCs. The amount of contact they had with LOOC varied.

**NOC Service Centre**

NOC-relations was responsible for planning, staffing and running the NOC service centre at the Lillehammer Olympic Village and the Olympic Subsite Village Hamar. The concept was based on organising as many services as possible in the service centre, and staffing the centre with persons who represented various technical departments in LOOC.

The NOC service centre offered the following services:
- General information (over a counter)
- Tickets
- Transportation
- Arrival/departure
- Luggage and package service
- Finances
- Technical department
- Post distribution
- Sports information
- Teleservice centre

The service centre at the Olympic Subsite Village Hamar offered information services, post distribution and sports information.
**Staffing**

Two full-time employees in NOC-Relations led the centre in Lillehammer and one person led the centre in Hamar. In addition to the personnel from the technical departments, there were respectively seven and four Team ‘94 members at each of the centres.

**Organising the sports competitions during the Games**

1 847 athletes from 67 nations registered to participate in 61 competitions at the Lillehammer Games. Of the 1738 who actually participated, 522 were women. In addition to the athletes, there were 1 095 trainers and 726 support personnel.

All sports competitions took place according to schedule. The start of three competitions, however, were delayed 30 minutes in order to ensure similar sun conditions on the pistes for men’s and women’s Giant Slalom and a tighter competition schedule for the B-group in the Aerials competition.

In all, 115 events were held, and a total of 183 medals were awarded. These medals were awarded to a total of 339 persons (108 of which were women). LOOC sport was also responsible for the NOC Service Office at the Olympic Village and the regular meetings with the Chef de Mission.

There were some 1 211 573 paying spectators to the Olympic events. 176 000 persons also had the opportunity to see the events without paying for a ticket (guests, media, etc.). Consequently, 1 384 000 persons visited the various Olympic arenas during the Lillehammer Games. There were also about 500 000 spectators who followed the competitions from outside the arenas – primarily spectators along the tracks at Birkebeineren Ski Stadium. In other words, 1 892 000 spectators watched the Olympic competitions in or near the arenas. There were also about 34 000 persons who purchased tickets to test events (dress rehearsal for Opening Ceremony and Figure skating) and at least 250 000 people who watched the Victory Ceremonies at Stampesletta. In all this means that 2 170 000 people attended Olympic events at Lillehammer.

Although there are no statistics on the number of tourists, relatives and other guests who visited the Olympic city without attending any Olympic events, the number was undoubtedly in the thousands.
The Olympic Arenas
To administrate the construction of the XVII Olympic Winter Games, Lillehammer Municipality established a separate company, Lillehammer Olympiske Anlegg (LOA). The municipality was the only shareholder in this company. External consultants/architects were hired for planning, and subcontractors performed the construction work.

The company's administration was based on four areas: arenas, halls, residences and finances/staff functions.

Later, LOA was taken over by Lillehammer OL ‘94 AS. In the autumn 1991, the company merged with LOOC and became a separate department. The department was given new areas of responsibility, while the finance and staff functions were taken over by the corresponding departments in LOOC.

The Construction Department was divided into the following areas, each with a project director:

**Outdoor arenas**
- Lillehammer Olympic Alpine Centre, Hafjell
- Lillehammer Olympic Alpine Centre, Kvitfjell
- Lillehammer Olympic Bobsleigh and Luge Track, Hunderfossen
- Kanthaugen Freestyle Arena
- Lysgårdsbakkene Ski Jumping Arena
- Birkebeineren Ski Stadium

As well as property acquisition.

**Halls**
- Håkon Hall
- Hamar Olympic Hall
- Hamar Olympic Amphitheatre
- Gjøvik Olympic Cavern Hall

**Residences**
- Athlete accommodation
- Media accommodation
- IOC Hotel
The following companies were established:

- **Hamar Olympiske Anlegg AS:**
  - Hamar Olympic Hall
  - Hamar Olympic Amphitheatre
- **Gjøvik Olympiske Anlegg AS:**
  - Gjøvik Olympic Cavern Hall
- **Olympiaparken AS:**
  - Birkebeineren Ski Stadium
  - Lysgårdsbakkene Ski Jumping Arena
  - Kanthaugen Freestyle Arena
- **Håkons Hall AS:**
  - Håkon Hall
- **Hunderfossen Bob- og Akebane AS:**
  - Lillehammer Olympic Bobsleigh and Luge Track
- **Kvitfjell Alpinanlegg AS:**
  - Lillehammer Olympic Alpine Centre, Kvitfjell
- **Sameiet Hafjell Riks anlegg:**
  - Lillehammer Olympic Alpine Centre, Hafjell

All of these companies entered into contracts with LOOC Construction (previously LOA) concerning the managerial responsibility for planning and constructing the arenas.

Based on the various “premises” that were specified by LOOC and approved in January 1990, the planning, estimating and budgeting work began.

In some areas, however, significant additional premises were added. This applied to the following areas:

- **Architecture**
- **Environment**
- **AOM (Administration, Operations, Maintenance)**

*Architecture*

A separate consultancy group was established for developing and following up on the premises laid down for “surroundings and architecture”. The group consisted of an architect, an industrial designer, a landscape architect and a specialist in environmental protection.

These persons developed a set of general premises, as well as a set of specific premises for each Olympic arena. In the general premises, emphasis was put on the following:

- Norwegian distinctiveness
- Environmental protection
- Unified design
- Aesthetic quality

In the specific premises for each arena, the general premises were concretised based on the site's geography, topography, surroundings, need for functionality and type of sport. A number of specific arenas or buildings were also pointed out as structures that one wanted to signal out as “attention-getters”.

The premises could be found in the following document:

Olympics ’94 Visual profile: Surroundings and architecture.

The above-mentioned document was the starting point for all architects who were hired for planning the arenas. As the planning progressed, quality control was conducted by a separate LOOC committee.
Environment
In the autumn 1990, a document describing the Environmental Goals for the Lillehammer Games 1994 was completed. This document contained requirements for an “Environmental construction of arenas”. Emphasis was to be put on the following:

- Take into account the region’s cultural values and the local economic base
- Adapt the architecture to the region’s own identity
- Aim at achieving environmental solutions for excavated mass and for landscape architecture
- Allow for energy economisation measures and recycling of materials
- Emphasize national goals for the work environment, health and safety

Administration, operations and maintenance (AOM)
Separate premises were developed for AOM and AOM-documentation and were compiled in a separate document. In terms of requirements for functionality, energy economization and choice of materials, this document did not specify any demands beyond that which was already specified in other premise documents.

The scope of the requirements for documentation were significantly larger than what had been previously the case for such large construction projects.

Project
The project directors and project managers were central in coordinating all activities at the various arenas, also for activities that for financial or contractual reasons were assigned to other departments.

The last 6 months of 1993, there was a need to hire technical personnel who could run the operations at the arenas during the Games. The result was that the project managers for the various construction projects and site engineers took over these functions. The Equipment/installations Department functioned as a maintenance service for the temporary buildings.

After the Lillehammer Games, the Construction Department was merged with the Material Administration and Acquisition Departments in order to better coordinate the demobilisation activities at the arenas and organise the sale of equipment and material.

The Press
Main Accreditation Centre (MPC)
(including access roads and parking facilities)

Equipment/installations
Temporary buildings
Inventory and equipment
Electrical installations
Signs and festival elements
The ski jumps were placed in a cultivated and forested area one kilometre east of downtown Lillehammer. The site could be seen from the city, as well as from many miles around.

Planning and construction
On 1 August 1990, the Government passed a resolution providing a financial grant for the project and approving the site. The facility was wholly financed by a NOK 94 million governmental grant.

The construction of the facility began in the spring 1990, and was completed in December 1992. Temporary buildings and ceremony installations were completed in December 1993.

The architects for the facility were ØKAW Architects AS.

The main contractor for the concrete work was Martin M. Bakken AS.

After the Olympic Games, Lillehammer Development AS took over operations at the arena.

Technical data
The spectator capacity at Lysgårdsbakkene is 35 000 (7 500 seats and room for 27 500 in the stands). The stands were nearly symmetrically placed in the hill so as to produce optimal lift and wind conditions for the athletes.

The design of the stands had to take into consideration that the facility would also be used for the Opening and Closing Ceremonies.

The stands were placed far up alongside the outrun so that spectators could come as close to the hill as possible.

The areas with seats were made of pre-fabricated concrete elements on which metal bars were fastened.
The K120 hill had a K-point of 120 metres. The degree of slope on the outrun was 37.5° and 11.5° for the jump. The figures for the K90 hill were 36° and 11° respectively (K-point at 90 m). The height difference from the lower point of the bottom of the hill and the start house platform on the K120 hill was 137 metres; the height difference for the K90 hill is 112.

The length of the approach (from the platform at the start house to the edge of the jump) for the K120 hill is 96.6 metres horizontally; 83 metres for the K90 hill. The maximum width of the outrun on the K120 hill is 24.6 metres; 19.6 metres for the K90 hill.

The track on the approach is made of glue-laminate wood resting on a layer of steel. Built into the glue-laminate wooden track was a system for attaching a track-making machine.

A high-pressure snow production facility was installed at the facility, with outtakes all along the outrun and on the approach.

On the north side of the K120 hill, a chair lift was built going from the bottom of the hill and up to a clearing above the start house.

Buildings
About 1 000m² of permanent buildings were constructed:
- Start house/ ski jumping tower
- Judges tower; also containing a room for the Event Management, the secretariat, a jury room, a computer room, a results service, a speaker/ scoreboard room, a canteen and a VIP lounge.
- Media building, including a technical room for radio and TV transmissions, telecommunications, a telephone central, a main scoreboard room and a radio and television support room.
- An underground technical room below the stands containing a compressor and other equipment.
- First aid station and restroom facilities.

All these buildings were constructed in concrete, with facades harmonizing with the colour choice at the facility.

Temporary buildings were also constructed for:
- Commentator boxes (behind the stands near the K90 outrun); 70 in all.
- Media centre for writing press; a restaurant.
- Offices for computers, telecommunications, ORTO, the Arena Management and technical personnel.

Food serving facilities for the spectators were located in a large tent outside the arena, close to the entry gates.
Environmental considerations
There were strict environmental requirements on the design of the facility. Placing the facility deep into the terrain was important both in order for it to harmonize with the surrounding landscape, but also to screen the ski jumpers from wind. Emphasis was put on leaving as much as possible of the natural vegetation in the area intact.

Post-Olympic use
An athletic high school has been established at the facility, and the media building will be used as classrooms.

For the K90 hill, Lillehammer Development AS has financed the building of porcelain tracks and the laying of plastic on the outrun, so that ski jumpers can use the facility during the summer.

A World Cup in Ski jumping/Nordic combined was held in March 1993, and a European Championship in the same disciplines in December 1993.

A major janissary music festival was held during the summer 1993 at the facility. A concert held during the festival attracted more than 25,000 spectators.

The facility will be open for visitors during most of the year, and the lift will be in operation for tourists during the summer season.

There is a souvenir shop at the start house and a restaurant just behind the start house ("Kanten").
Kanthaugen Freestyle Arena

The Kanthaugen Freestyle Arena is located about one kilometre east of downtown Lillehammer. The arena is adjacent to the Olympic ski jumping hills.

The background for this placement was the intention of organising a “Compact Games”, with as many arenas as possible in the Olympic Park. Locating the arena close to downtown Lillehammer was also important. The area that was chosen is a popular outdoors and recreational area for the city’s inhabitants, and is in a part-forested, part-cultivated area. Previously there had been a skiing piste and cross-country and hiking trails in the area.

Construction and planning

Kanthaugen Freestyle Arena is owned by Lillehammer Utvikling through Olympiaparken AS. The architect was ØKAW Arkitekter AS, and the landscape work was done by the company Tore Løkke AS.

The total budget for the freestyle facility was NOK 20.3 million, of which NOK 17 million came from LOOC and NOK 3.3 million from Lillehammer Municipality.

In August 1991, Lillehammer Municipality passed an area development plan for the freestyle facility specifying that it would provide facilities for Aerials, Ballet and Moguls.

In November 1991, LOOC decided to take over responsibility for constructing the moguls hill, but completion of the hills for aerials and ballet were still the responsibility of Lillehammer Municipality.

In October 1992, LOOC decided to include Freestyle aerials in the official programme.

The facility was completed with the permanent installations in the autumn 1992. The complete Olympic arena with temporary buildings was completed in December 1993.

Technical data

The three hills for Aerials, Ballet and Moguls were built close together with a common outrun. A separate judge tower was built for the aerials hill.
Kanthaugen has a spectator capacity of approx. 15,000. The spectator capacity was 12,000 during the Moguls event.

The freestyle arena is equipped with snow-production equipment that covers all three hills. A T-bar ski lift has also been installed and serves all three hills.

In addition to the permanent buildings at the freestyle facility, a number of technical rooms at the Lysgårdsbakken Ski Jumping Arena were used for telecommunications and radio and television transmissions.

Environmental considerations
During the planning of the facility, emphasis was put on preserving as much as possible of the forest in the area and minimizing the impact to the surrounding terrain when transporting excavated material.

Post-Olympic use
Kanthaugen Freestyle Arena has been designated as a national facility for training and competition purposes.
Håkon Hall is Norway’s largest sports hall with a seating capacity of 9,500 persons, and room for about 1,000 persons in the stands. The hall is owned by Lillehammer Utvikling through the subsidiary Håkon Hall AS.

The site for the arena was decided by LOOC on 1 December 1989. In April 1990, the decision was approved by the Norwegian parliament, which granted NOK 189 million for construction. With an additional financial contribution of NOK 3 million from the Paralympics organisation, the total construction budget was NOK 192 million.

During the winter of 1990/1991, the hall was given a “face-lift” which together with some structural changes and the installation of various energy economisation measures increased construction costs to NOK 230 million. The final economic contribution was therefore as follows: NOK 12.2 million from the post-Olympic fund, NOK 3 million from Paralympics and the rest from the government.

Technical data

The arena is located close to downtown Lillehammer in the Olympic Park. The roof of the hall consists of four separated shell elements, and the entire facility is built deep into the ground. This means that despite its 40-metre-high ceiling and 15,000 m² roof surface area, the hall does not appear – from the outside – as a monumental construction.

The main contractor for the work was AS Veidekke, who completed construction on 1 February 1993. The final costs were NOK 238 million (including work to the facade).

The roof construction consists of double trussed beams in glue-laminate wood; the longest beam is 85.4 metres.

The hall has excellent acoustics.

Extensive use of transparent polycarbonate sheets and wood in the ceiling and roof provides plenty of light in the hall. The hall has a total length of 127 metres and a surface area of 23,000 m². The amphi-shaped stands are telescopic.

During the design phase, one goal was to give the building a classic design, with great care given to the use of colours.
Environmental considerations

During the planning and construction phases, emphasis was placed on environmental, security and energy-conservation measures. The facility is equipped with a heat-pump system that recycles heat from shower water, and special double-layer glass has been used for all the windows. In addition, the heating and cooling systems are coordinated with the neighbouring Kristin Hall, so that the halls can function as energy reserves for each other. High tension cables have been placed underground, and extensive security measures have been installed for the refrigeration system (ammonia).

The hall features one of Europe’s most advanced, man-made mountain climbing walls. With a height of 20 metres and a width of nine metres, it has become a popular attraction.

The hall is adapted for use by the physically handicapped. Håkon Hall was built in cooperation with The Norwegian Handicap Association and Paralympics, which with their advisory and financial support, have made the hall into one of the best adapted halls in Europe for the physically handicapped.

The hall has been given energy economisation funds from the Norwegian Water Resources and Energy Administration (NVE) and the Foundation for Scientific and Industrial Research at the University of Trondheim (SINTEF). A research project lasting several years is being conducted at the hall.

Håkon Hall was built as the main arena for Ice hockey during the Olympic Winter Games; however, a precondition for building the hall was that it could be used as a multi-purpose hall after the Games.

The flexible construction programme gave room for changes along the way, so that the hall is now one of the best multi-purpose halls in Norway. The hall has facilities for the following: squash, bowling, rifling, health studio, training and conference centre.
Birkebeineren Ski Stadium

The placement of the arena was decided in January 1990. The arena is situated approx. 3 kilometres northeast of downtown Lillehammer, and is 485 metres above sea level. The Birkebeineren Ski Stadium has two stadium areas, and can be used for both Cross country and Biathlon.

The facility is owned by Olympia Park AS, which is a subsidiary of Lillehammer Olympia Vekst AS (LOV). The network of cross-country tracks crosses several different properties, which have been rented for a period of 40 years. The rental period for the biathlon tracks expired 1 October 1994.

A special study programme for the project was conducted prior to construction. Those participating in the study group were assigned by LOOC: one project manager, a representative of the construction company LOA, a representative of Lillehammer Municipality and one representative each from the Norwegian Ski Association and the Norwegian Biathlon Association, as well as various advisors and consultants.

In accordance with the report from the study group and feedback from various technical departments, the project was designed to produce a top notch Olympic facility. During the planning phase, adjustments and adaptations were made to adapt the facility to post-Olympic purposes and Paralympics.

The arena is financed with Olympic funds and funds from the national pools. Adjustments to the original plans were financed by the Paralympics organisation and LOV.

The overall budget for the construction of the arena was NOK 83.6 million.

Construction and planning

LOOC’s Construction Department managed the building of the arena.

The main consultant during the preliminary project phase was 2Ø Architects. The company Tonning & Lieng was the main consultant during the detail project phase. A number of contractors and subcontractors were used during the building phase. This was due partly to the long construction period, as well as the fact that construction began before the planning
was finished. Construction work began early in 1991 and lasted until the autumn of 1993. The entire arena and network of cross-country tracks was completed in the autumn of 1993. All landscaping was completed in 1994.

**Technical data**

The total surface area of the facility was 200,000 m².

Of the permanent buildings, there are four which are owned by Olympia Parken AS, while one building will be taken over by Lillehammer Riding Club. The last-mentioned building has a surface area of 1610 m².

The other buildings include: a finishing house for Biathlon (214 m²), a technical house (355 m²) and a finishing house for Cross country (155 m²). There were also temporary buildings with a total surface area of about 3000 m², as well as a 3200 m² tent. Of the temporary buildings, about 700 m² will not be removed after the Winter Olympics.

The materials of choice have been concrete and wood.

The maximum spectator capacity for cross-country events is 31,000, and 13,500 for biathlon events.

The length of the cross-country stadium is 200 metres, and 150 metres for the Biathlon stadium. All measurements fulfill FIS regulations.

The arena was placed in a swampy area, and during construction much of the earth had to be replaced with harder soil. Most of the swampy soil was removed and was made into fertiliser and used in other parts of the arena. 220 metres of pipe were installed to redirect water from a small stream. The arena was so flat that a separate drainage system was installed to drain away surface water.

A significant amount of cable was installed at the arena, and most of this was put underground.

A 1250 kVA transformer was installed permanently at the arena. Another transformer of the same size was placed at the arena during the Olympics. The entire electric facility provided 400 W – a first in Norway. UPS was selected for the most important equipment (computers, time-keeping systems, etc). An emergency generator which could supply the permanent transformer with electricity if needed was also installed.

27 kilometres of tracks were built for Cross country and 9 kilometres for Biathlon. The width of the tracks ranged from five to ten meters, and bridges were built to avoid having any intersections (roads, tracks, etc.). During the Lillehammer Games, four additional temporary overpasses were built over the tracks.
Environmental considerations
During the construction of the arenas, we had strict quality control of security, ecology and financial aspects.

We emphasized preserving as many trees and natural vegetation as possible; the network of tracks was carefully laid so as to minimize damage to the surrounding forest. Despite this, all demands for television angles and challenging tracks was met. The arena will quite possibly be designated as the Norwegian national arena for Biathlon.

Post-Olympic use
During the winter, this arena can host a number of ski events, and some have suggested paving the tracks so that they can be used during the summer. There will also be a camping area at the arena during the summer.

Much of the arena will also be used as a riding centre.
The combined bobsleigh and luge track is situated in the forest at Hunderfossen 15 kilometres northwest of Lillehammer. The track is the only artificially frozen track in Scandinavia, and one of the world's most modern. Norwegian consultants and contractors, assisted by specialists with experience from Olympic facilities in La Plagne, Calgary and tracks in the former East Germany, conducted the extensive planning and construction work.

In December 1989, LOOC decided on the location for the track, and on 24 August 1990 the arena placement and a public grant were approved and adopted by the Government. The track, which has been designated as a national facility for the Bobsleigh and Luge sports, was completed 1 October 1992. The price was NOK 201 million. The facility is owned by Lillehammer Development through the subsidiary Hunderfossen Bobsleigh and Luge Track AS. The architects for the building were Lillehammer Architect Team.

**Technical data**

The ammonia-based refrigeration system provides maximum operational security in that the cooling pipes are enclosed in an underground, concrete culvert. This is the first track in the world with this design. Sensors warn immediately in case of leaks, and a well-drilled emergency programme has been developed. Pressure tests and extensive x-ray control on pipes and pipe parts have shown that the risk of leaks is minimal.

The track shell itself is separate and built of reinforced concrete, consisting of in all 31 separate sections along the 1710 metres of track. In all, 16 curves give the track a competition length of 1365 metres for Luge single men and 1065 metres for Luge single women and double men. The starting point is 384 metres above sea level, and the lowest point is 233.5 metres above sea level. The height difference is 112 metres, and the average fall is 8% (max. 15%).

24 photocells have been installed for time-keeping during training and competitions.

Athletes can reach a top velocity of 130 km/h (up to 4 G). A 300-metre-long stretch after the finish line allows competitors...
to safely slow down and stop. The competition disciplines include Two-man bobsleigh, Four-man bobsleigh, Luge men and women and Luge double men.

An ultra-modern refrigeration facility with an effect of 3100 Kw and 90 tonnes ammonia circulating in 80 kilometres of pipes (divided into 94 sections) allows us to keep the track iced even with outdoor temperatures up to +20 °C. In all, 85 sensors monitor ice temperature, and the most exposed parts of the track are protected against direct sunlight.

**Environmental considerations**

For environmental, safety and economic reasons, we chose a combined track with separate starting points for Bobsleigh and Luge. The track is adapted to the main contours in the terrain, and by demanding that the surrounding vegetation be spared, the form of the track harmonises rather than dominates the landscape.

By consciously using wooden materials, natural stone and turf and adapting all structures and buildings in colour and shape, the track is a functional sculpture in a large recreational area.

Roads on both sides of the track and several underpasses ensure access for service and maintenance staff, and offer up to 10 000 spectators a first-rate view of events.

Temporary facilities built for the Olympic Games were given an architectonic shape consistent with the arena's overall visual profile. Close cooperation with media representatives during the planning and construction phase ensured excellent facilities for the press.

The track was designed with both speed and safety in mind. Modern sound and lighting increase the facility's appeal.

An ordinary operational season of four months (November to March) with a possible extension to five months – as well as its status as a national facility for two sports – makes the Lillehammer Olympic Bobsleigh and Luge Track a natural focal point for athletes in and outside of Scandinavia.

During the summer of 1993, a specially designed “wheel-bob” was popular among tourists. The track is also ideal for Bobsleigh and Luge schools.
Lillehammer Olympic Alpine Centre, Hafjell

Hafjell Alpine Centre is Norway’s national alpine centre and is located in Øyer Municipality, 15 kilometres north of Lillehammer.

The first building phase took place during the summer/autumn of 1988. The centre opened on 10 December the same year. In other words, the facility was planned before Lillehammer was awarded the XVII Olympic Winter Games. The centre was used to promote Lillehammer’s candidacy for the Winter Games. It was necessary to make a number of changes to the facility before it satisfied the demands of an Olympic arena.

In April 1990, the Norwegian parliament passed a resolution accepting the site as an Olympic arena. The parliament voted to grant LOOC NOK 71 million for the completion of the arena. Hafjell Invest paid NOK 10.6 million and Paralympics contributed NOK 0.526 million.

All changes were completed by December 1991.

The facility is owned by Hafjell Riksanlegg, of which Lillehammer Development owns 51% and Hafjell Invest 49%.

The main architect for the facility was the company Pabas, Lund-Hagem Architecture.

Prior to the improvements, the facility consisted of:
- 20 kilometres of pistes
- Two four-seat chair lifts with fixed wire attachments
- Five tow-bars
- Two-kilometres of high-pressure snow production facilities
- Two-kilometres of lighted tracks

The following changes were made to the facility for the Olympic Games:

The chairs on the lower lift were fitted with detachable attachments and capacity was increased to 2880 persons per hour (max. 5 m/s).

A storage room was built to house the chairs, the maintenance equipment, security nets, slalom poles and other technical equipment.
A new building was built next to the finish area. The building was 200 m² and had permanent equipment for time-keeping equipment and sound, as well as various start tents.

An alternative lift system was constructed from the lower station on the hill which covered all starting points for the Slalom and Giant slalom events. The system consists of a four-seat chair lift with fixed attachments. A new training piste was also cleared.

The facility now had modern pistes for all technical disciplines.

Cables and other technical equipment with three separate cable lines were installed for a complete time-keeping system with mid-station times and speed measurements for all the events.

The snow production facility was extensively expanded and now consists of both high-pressure and low-pressure equipment. In all, total water capacity is 360 m³/h (at a rate of 58 bar). This corresponds to about 800 m³ of snow per hour. The snow facility covers about eight kilometres of piste. The available capacity of pumps and compressors is 1250 Kw.

A centralised operations facility was built to monitor energy consumption and to disconnect low-priority loads to achieve maximum effect.

The facility today is a modern alpine facility with popular, family-oriented facilities for both active and amateur alpine skiers.

**Environmental considerations**

The lower part of Hafjell Alpine Facility is located 200 metres above sea level; the top is 1 024 metres above sea level. This means that a large number of the pistes are well screened by woods. The tracks are well adapted to the terrain, and all hills are covered with grass in the summertime.

**Post-Olympic use**

The facility can handle all Slalom and Giant slalom events for both women and men.

After the Games, the Olympic media accommodations at the top and bottom of the hill will be used as tourist accommodation.

The Hafjell Alpine Centre also served as an arena for Alpine events during Paralympics ‘94.
The Kvitfjell Alpine Centre is situated in Ringebu Municipality, 58 kilometres north of Lillehammer. The facility is owned by Kvitfjell Alpine Centre AS, of which Lillehammer Development owns 51% and KS Kvitfjell 49%. The architect company was Pabas, Lund-Hagem Architects and Div. A. Architectural Office. LOOC had project and construction management responsibility. The facility was financed through a government grant of NOK 120.874 million, NOK 25 million from KS Kvitfjell and NOK 7.5 million from Ringebu Municipality.

LOOC adopted the arena placement in December 1989, and in April the next year the Norwegian parliament approved the site and a public grant.

The planning and construction of the permanent installations were to a large extent completed during the spring, summer and autumn of 1991. After a very hectic construction period, the facility opened in December 1991.

Kvitfjell was the Olympic arena for Downhill and Super G for women and men. The Downhill piste was by many experts characterised as one of the world’s most challenging. Downhill is skiing’s “Formula 1”, and a demanding piste in this discipline was important when applying to host the Games. Lillehammer’s application specified that the Downhill event would be held on a new piste, and after Lillehammer was chosen to host the Winter Games, the final location was decided in close cooperation with FIS advisor B. Russi. The Downhill piste had a length of 3007 metres and fall of 837 metres. The start area was 1025 metres above sea level, and the finish area was 187 metres above sea level. The piste had several spectacular sections with 70-meter jumps and directional changes of up to 80-90 degrees. The maximum slope was 67% and skiers often reached speeds of over 130 km/h at the finishing area.

Safety was a priority at this facility. Before each competition, 1800 metres of 5 to 4-metre-high security fence and 2500 metres of 1.25 to 1.5-metre-high fence were installed on both sides of the piste. Priority was given to the
and a common description of the track was “demanding, but safe”. The Downhill piste also had a Super G loop at mid-station. A service piste ran parallel to the main piste from the mid-station to the finishing area. Near the start area, there were two warm-up pistes (1500 and 700 metres long).

Athlete transport was as follows:
- One four-seat chair lift with fixed wire attachments
- One t-bar lift
- One saucer lift

Total lift capacity was 4000 persons per hour.

The low-pressure snow production facilities covered the entire Downhill piste and upper part of the warm-up pistes. Total capacity was about 180 m³ water p/h (48 bar pressure), which corresponds to 450 m³ snow p/h. There are four pressure-boosting stations, and during the Olympic season, 14 low-pressure cannons were stationed along the facility.

A complete time-keeping system was installed all along the track for time and speed measurements. There were also three separate cable connections for the time-keeping equipment, and permanent time-keeping and sound equipment in the 200 m² building in the finishing area.

Environmental considerations
The pistes follow the contour of the mountain. They were built in a forested area, and the width was kept to a minimum. Grass has been planted on all the pistes to prevent erosion. All buildings are built to harmonize with the landscape, and made of wood using traditional building techniques.

The railway from Oslo to Trondheim passes under the piste in a culvert by the finishing area; a special platform was built for passengers disembarking at Kvitfjell.

The distance from the platform to the chair lift is about 50 metres. The railway was used to transport spectators during the Lillehammer Games.

Post-Olympic use
Kvitfjell Alpine Facility has been open to the public during the 1991-1992 and 1992-1993 seasons, and the public’s reaction has been positive despite its high level of difficulty. A hotel and mid-station area is now being built on the hill.
Hamar Olympic Hall

After Lillehammer was awarded the 1994 Winter Games, Hamar Municipality quickly showed an interest in building an indoor skating arena. Hamar has a rich history as a skating town.

In December 1989, LOOC discussed where to locate the Hamar Olympic Hall. The hall would be placed in Åkersvika, one kilometre from downtown Hamar and 60 kilometres from Lillehammer. The site was controversial because it was in an internationally preserved bird sanctuary. By working closely with various environmental organisations, a solution was finally arrived at that everyone could accept. Building permits were issued under the following conditions:

- The hall would be moved 50 metres further away from the bird sanctuary (compared to the original plans).
- Two observation towers would be built for birdwatchers.
- Economic compensation would be used, for example, to move a nearby lumber terminal.

In April 1990, the Norwegian parliament agreed to the location and issued a financial grant. In November 1990, the organisers and environmental organisations agreed to a compromise proposal.

Hamar Olympiske Anlegg AS owns the hall. Hamar Municipality received funds to build the complex. Three contracts were entered into between LOOC and Hamar Municipality.

1. Project management
   The project management would consist of LOOC employees.

2. Financial management
   The financial management would consist of LOOC employees.

3. Right-of-use
   LOOC was able to use the hall to stage test and Olympic events, and would cover all operational expenses for such activities. The municipality would build and run the facility, and would carry the risk of any cost overruns.

The construction and operation company Hamar Olympiske Anlegg AS was then founded, in which Hamar Municipality and LOOC were the only shareholders.
Planning and construction

Bids were solicited for three phases:
1. Prequalification (first phase); six groups participated.
2. Price/project competition (second phase); three groups.
3. Price/project competition; negotiations with one group.

In order to reduce the operational costs, the municipality decided to build a new fire station next to the building so that one could make use of their staff.

Technical data

The hall was designed by architects from Niels Torp AS and Biong and Biong AS, and has been designated Norway’s national facility for Bandy and Speed skating. The hall’s total volume is 400 000 m³, with a surface area of 25 000 m². The facility has the world’s longest glue-laminate beams (100 m.).

The refrigeration facility uses ammonia and a saline solution transported in plastic pipes embedded in concrete blocks. The ice temperature can vary from -5.50 to -6.50 °C. The ventilation facility blows fresh air close to the ice and has outlets in the ceiling.

The facility can offer the following ventilation alternatives: de-moisturising, heating/cooling, re-circulation of air and fresh air intake. During the Games, air conditions were excellent. Central water boilers provided heating for the entire facility; heat is also recycled from the refrigeration units. The light system offers minimum 1400 lux with an even distribution (min. 0.5).

Hamar Olympic Hall holds 10 600 spectators (2000 seats). During the Games, there were 250 VIP seats, 250 press seats and 100 commentator seats.

The speed skating track is 400 metres long with a turning radius of 25.5 metres on the inner track. Athletes could access the ice via an underground passage to the inner track area.

Post-Olympic use

The Hamar Olympic Hall has a promising future and can be used for a variety of activities ranging from exhibitions to the following sports: football(soccer), cycling, track and field, curling, motorsports, cross country and bandy.

In 1993, three world championships were held. Athletes from 50 nations participated in the World Championships in Cycling.

The hall has also proved its role as a tourist magnet. About 300 000 tourists have visited the hall thus far, in addition to the spectators and athletes who visited the hall during the Games and other events.

In 1993, both ice halls in Hamar broke even. The Olympic Hall had a NOK 1.5 million profit, and the Olympic Amphitheatre had an equivalent amount as a deficit. The owners do not have any financing expenses, as the halls were in reality donated to Hamar by the national government.

About NOK 4 million of income comes from interest-earning funds.
**Temporary buildings**

During the Games, the following temporary buildings were built:
- Accreditation 35 m²
- Ticket sales/information 20 m²
- Police (3 separate sites) 15 m²
- Press agencies 200 m²
- CBS office 100 m²
- NHK office 30 m²
- ORTO office/meeting room 100 m²
- Copying room 40 m²
- First aid for spectators 20 m²
- VIP 75 m² tent
- Press 75 m² tent, in addition to the Fire Station 500 m² (press centre and cafeteria)
- Storage/freezing facilities 7
- Sales tents 3
- Outdoor toilets 25

During the Games, the lobby was divided into the following areas: a transport office with a 60 m² room for chauffeurs, a 30 m² room for photo services and a 200 m² room for press agencies.
When it was decided that the Figure skating and Short track competitions during the Games were to be held in Hamar, planning of the Hamar Olympic Amphitheatre began.

In December 1989, the site for the arena was decided by LOOC. In April 1990, the site and public grant were adopted in the Norwegian Assembly and in August 1991 HOA, Lillehammer-OL '94 and Hamar Municipality entered into a project agreement.

The Hamar Olympic Amphitheatre is located centrally in Hamar, 60 kilometres south of downtown Lillehammer. The Hall is a multi-purpose hall and is owned by Hamar Olympic Anlegg AS. The Hall was completed on 25 November 1992. The ice rink is 60 x 30 meters, and the Hall has a capacity of 6 000 spectators.

Hamar Municipality was granted funds to build the facility. Three agreements were entered into between LOOC and Hamar Municipality:

1. Project management
   The project management would consist of LOOC employees.

2. Financial management
   The financial management would consist of LOOC employees.

3. Right-of-use
   LOOC was able to use the hall to stage test and Olympic events, and would cover all operational expenses for such activities. The municipality would build and run the facility, and would carry the risk of any cost overruns.

The construction and operation company Hamar Olympiske Anlegg AS was then established, with Hamar Municipality and LOOC as stockholders.

Hamar Olympic Amphitheatre cost NOK 83.3 million, of which public funds made up NOK 65 million.

Planning and construction
The project was organized in the same manner as Hamar Olympic Hall. The architects were Ola Moure, HRTB and Ketil Hovde, Hovde AS.
The arena was built adjacent to an existing hall in order to coordinate the use of technical facilities, dressing rooms, etc. Concrete stands created an excellent amphi-effect. Interior panelling was treated with fire-retardant material.

Technical data
The hall is 95 metres long, 75 metres wide and 22 metres high. The longest beam span is 70 metres, and the total surface area in the hall is 11 000 m² (7 000 m² on the ground floor). Of the 6 000 seats in the hall during the Olympics, 330 were reserved for VIPs, 60 for commentators and 200 for the press.

Temporary buildings
Several temporary buildings were built specifically for the Winter Games, and a nearby nursery school was also used during the Games.

Accreditation..........................................................46 m² temporary
Ticket sales/information........................................3 m² temporary
Press/agencies (and the nursery school)..............670 m² temporary
Police.................................................................58 m² temporary
Transport............................................................67 m² temporary
First aid for spectators.......................................22 m² temporary
FT2-FT3..............................................................48 m² temporary
TF1......................................................................23 m² temporary
NHK.................................................................22 m² temporary
CBS.................................................................117 m² temporary
Storage containers.............................................4
Portable toilets.......................................................18

Environmental considerations
Hamar Olympic Amphitheatre shares facilities with an earlier ice rink.

The hall harmonizes with the surrounding landscape. The following measures were implemented:

- saline solution for refrigeration
- heat recycling
- use of wood as construction material
- energy economization

Post-Olympic use
The hall is a flexible multi-purpose hall. In addition to being the home arena for the Storhamar Ice Hockey Team, the hall is ideal for handball matches, figure skating, short track
skating, concerts, exhibitions and congresses.
The Gjøvik Olympic Cavern Hall is situated in downtown Gjøvik 45 kilometres south of Lillehammer and 120 kilometres north of Oslo. The hall is placed 120 metres into the mountain, with 25 to 55 metres of bedrock above.

The hall is owned by Gjøvik Olympiske Anlegg (Gjøvik Municipality owns 70% and Lillehammer Utvikling 30%) and was designed by the architectural firm Moe-Levorsen Arkitekter MNAL AS.

Planning
Norwegian excavation and cavern specialists contributed significantly during the planning and construction phases.

In December 1989, LOOC prepared a budget for the ice hall, and in April 1990 the Norwegian parliament issued a government grant. In October 1990, Gjøvik Municipality and LOOC agreed to share ownership and operation responsibility, and in January 1991, Gjøvik executive council passed a resolution approving the building of the hall in the mountain.

Construction work started 1 April 1991, and the hall was completed in April 1993. In eight months, 140,000 m$^3$ (29,000 truckloads of rock) were excavated and removed from the hall.

The mass was used to build a new small boat harbour, a lakeside promenade and a parking terminal.

The total cost was NOK 134.6 million. The government granted NOK 88.5 million to the project.

During the Games, the hall functioned as an Ice hockey arena with 5,300 seats.

Post-Olympic use of the hall will vary from sports to cultural activities. The Ice hockey hall can also be used for football, handball, basketball, volleyball, tennis and rifling. There is also an existing swimming pool facility in the cavern.

The hall has excellent acoustics, and is also ideal for exhibitions, trade fairs, etc.
**Technical data**
The design incorporates aspects of the cavern's own qualities.
The contrasts in texture and lighting are important features.
The use of fire retardant materials was mandatory.

During construction of the Gjøvik Cavern Hall, Norway's leading expertise in the following fields were hired:
- rock mechanics and engineer geology
- energy and climate control
- fire safety

During the planning and construction phases, a number of measurements were made of the surrounding rock:
evaluations of rock-bolting methods, geophysical measurements and numerical analyses. New technology was developed and tested. Strict guidelines were followed for all excavation work.

Measurement equipment for heat accumulation and effect and energy needs in caverns was also developed.

Security was ensured by developing new strategies for spectator safety in cavern halls and technical facilities for fire control.

The hall is the world’s largest spectator hall inside a mountain and can seat 5800 people. The ceiling span is 91 metres, and the height is 24 metres. The surface area is 7 000 m². The total area is 15 000 m². The volume is 140 000 m³.

Three main emergency exits lead out of the hall. There is also an emergency exit via the swimming pool facilities located next door to the hall. The large lobby which surrounds the entire facility ensures a controlled exit from throughout the arena.

**Environmental considerations**
There were several environmental benefits in locating the hall inside a mountain:
- The hall does not take up valuable downtown property space.
- The hall does not interfere with the natural contours of the city and surrounding landscape.
- The downtown location reduces travel costs.
- The hall uses the same facilities as the swimming facility and Norwegian Telecom's facilities.
- Energy costs are reduced since the hall is inside the mountain (stable year-round temperature).

Operational costs will be quite low compared to those of a conventional ice hall. An advanced control system keeps track of energy consumption.

**Research**
During construction, extensive research projects were conducted in the fields of rock mechanics, fire safety, ventilation, energy economisation and psychological aspects (spectator behaviour).

The research programme offers important documentation for later export of the technology.
Stampesletta was chosen as the main arena for the Awards Ceremonies because of its capacity and distance to downtown Lillehammer.

All Awards Ceremonies except for Ice hockey, Figure skating, Short track and Speed skating were held here. The other ceremonies were held in Håkon Hall, Hamar Olympic Amphitheatre and the Olympic Hall.

The arena was designed with conscious attention to the landscape’s horizontal axis – between the light sculptures in the north and the earth mounds in the south.

In addition to paying attention to television angles etc., the arenas were designed so that the ceremonies would be a memorable event for both the medal winners and the spectators.

Norwegian tradition determined the choice of backdrop and awards podiums made of ice and snow, with light, natural pine floors as a contrasting element.

An ice podium made of glacier ice from the Jostedals glacier attracted international attention. Up to 25,000 to 30,000 spectators attended each ceremony. Attendance at these ceremonies was free of charge.
Main Press Centre (MPC)

The Main Press Centre is owned by Lillehammer Press and Information Centre AS (LPI) which was established in the autumn 1992. Shares in the company were distributed as follows: LOOC AS, 37.2%; Planbygg AS, 41.3%; ABB AS, 1.6% and Oppland County, 2.9%. In the winter 1993, Partek Østspenn took over 30% of Planbygg’s shares, and on 1 April 1994 Lillehammer Municipality took over LOOC’s shares.

An agreement between LOOC and LPI was made effective 1 August 1993 specifying that LOOC would transfer the building to LPI on 1 April 1994. For this right, LOOC paid a rent which was part of the financing of the construction project.

Planning and construction
LOOC conducted a study based on the requirements in the IOC’s Media Guide, and adapted this to the contractor’s requirement of a flexible building that would preserve future lessees’ needs and demands. A specially chosen Olympic furnishing arrangement was chosen that could easily be removed after the Winter Games.

The result was a 15 000 m² building on three floors built around a glass-covered hall which would function as the main service area. Four office wings on the three floors received daylight from the glass-covered part of the building.

The Press Centre would be the workplace for up to 3 000 photographers and journalists, and offer a level of service that would ensure that the media representatives were given satisfactory work conditions at all times.

The Centre was open 24-hours a day and contained a press conference hall seating 650 persons, common work rooms for 450 persons, a restaurant with a capacity of 550 persons, a photographic laboratory for Kodak, a separate copying facility, service functions such as a bank, post office, travel agency, kiosk, etc., as well as offices for press agencies and the various Olympic committees.
Top priority was given to ensuring a stable electricity supply. There were several back-up emergency systems, a high-quality telecommunications network and an advanced indoor ventilation system.

Location
It was decided to locate the MPC at Storhove, in accordance with an area development plan adopted in the summer 1991, and as an integrated part of a media park consisting of three media villages and a broadcasting centre. The distance to downtown Lillehammer was 3.5 kilometres.

The centre was close to the various arenas, so that common service functions such as transport, security, food service and telecommunications services could be solved in an efficient manner.

The centre's location also meant that most of the media would be concentrated outside of downtown, so that this would not put an additional strain on the traffic situation in downtown Lillehammer.

The centre's architect was the company Lysaker Mølle AS and the main consultant was Ivar Flodberg.

Construction was completed in three different phases.

The first phase consisted of the actual construction of the building by the contractor, not including the necessary installations for the Olympics. Construction was started on 1 June 1992 and was completed 1 August 1993.

During the second phase, the installations were completed. This work started on 15 May 1992 and was completed by 1 February 1994.

The third phase included the installation of equipment such as furniture and office equipment, computer equipment, telecommunications equipment and major kitchen equipment. About 75 groups and organisations moved in at this time.

The centre began operations on 15 October 1993 and the Centre was fully operational on 9 February 1994.

The planning and construction supervision for all three phases was the responsibility of LOOC’s Construction Department.

The Centre was financed through stock and loans from the building’s owner, a construction loan and an advance on rent by LOOC. Extensive furnishing and installation work for the staging of the Winter Games was directly financed by LOOC. The total costs for LOOC was NOK 106.5 million.

Technical data
The Centre's 15 000 m² consists of three floors with 4 900 m² on the basement, 5 100 m² on the ground floor and 5 000 m² on the first floor. There were 420 parking spaces.

Electricity was provided by two transformers on the ground floor, providing a total of 2 500 Kw. There were three air conditioning systems on the roof for ventilation.

A separate technical room in the basement contained telephone and computer technical installations. This was the basis for the ISDN-net with a total of 1 250 lines.

Furnishing and technical equipment
We learned the following from our experience during the Games:

The security checks at the entrance to the MPC should have had double the capacity, with two sluices for effective inspection of equipment (particularly the photographers) during peak periods.

The need for portable telecommunications equipment should have been assessed in advance. At least five cellular phones, five walkie-talkies and ten pagers should have been available for MPC personnel.

The 600 seats at the cafeteria/restaurant was sufficient.
The floor in the auditorium (for major press conferences), should have been slanted forward in order to obtain better contact between the media and members of the press. Lighting and technical equipment for press conference broadcasts need not be so advanced; however, the background and backdrop is very important.

Separate stands in the press conference room for photographers and for ENG-teams proved to be very popular. Press conferences were held very effectively in that these two groups had dedicated spaces away from the podium and the host broadcaster’s position.

**Environmental considerations**

The Press Centre shared facilities with the IBC and the Media Villages at Storhove. Another environmental measure was locating the centre in relation to the other arenas and downtown Lillehammer:

- A minimum of transport of press and media personnel between residence and workplace, and thereby reduced fuel consumption.
- By locating the media on the outskirts of the city near major traffic arteries, the downtown area was spared a great deal of traffic.
- By having the media use the restaurant and kitchen facilities and other service functions at the IBC and MPC, the place needed for such facilities in the Olympic Villages was considerably reduced.

**Post-Olympic use**

On 1 April, use of the building was transferred from LOOC to LPI.
Planning and construction

In Lillehammer’s application to host the 1994 Winter Games, an important argument was that the IBC would be built next to the Oppland College (ODH) about five kilometres north of downtown Lillehammer. In this way the college could take over the facilities after the Winter Olympics.

The Ministry of Cultural and Scientific Affairs gave the government-owned construction company Statsbygg the task of building the centre. Among the other groups brought in on the planning work were: NRK (Norwegian national television), Norwegian Telecom, Oppland College, the regional university committee, Lillehammer Municipality, Oppland County-municipality and LOOC.

Planning was based on the IOC Minimum Requirements, the Ministry’s conditions for granting financial support, similar centres in Calgary and Albertville and NRK’s long experience from similar sports events.

The IBC would have to provide space for 60 international radio and television companies. The planning study concluded that the building’s net area had to be 27 000 m², with 8 500 m² of temporary buildings. The budget was set at NOK 540 million; but with budget cuts of NOK 70 million, the final total was NOK 470 million.


The facility had to be:
- adaptable during the construction period
- easily convertible to a permanent facility without major re-building
- a functional and flexible educational facility

Technical data

During the Winter Games, the IBC was the largest communications centre in the world, and contained some of the world’s most advanced equipment and installations. Many of the broadcasting companies’ staff pointed out how wonderful it was to work in a centre with so much natural light due to the many windows.
The five-storey building was built into the slanting hillside. In order to achieve optimal flexibility, one chose to design large, open areas. The foundation consisted of concrete. Installations that caused noise or vibrations were separated from the rest of the building. On the facade, the lower parts of the walls were covered with ochre-coloured concrete, while the rest was covered with slate. The roof consists of glass in a jagged pattern. A special type of glass ensured a good indoor climate, good light conditions, good energy economy and security in case of fire or accidents.

All indoor walls and installations in the areas for the radio and television companies (ORTO ’94 and Norwegian Telecom) were temporary.

The main ventilation facility consisted of a low-pressure system with intake and outtake vents in the roof. The capacity was about 350 000 m$^3$ per hour.

A reliable power supply was essential for the radio and television broadcasts, and three 22 kW-lines fed the centre with electric power. There were two separate supply routes from the main power station and these two were connected to an automatic switching system. There were no interruptions to the electricity supply during the Games.

### Offices

The broadcasting companies were given a choice of standard equipment and services. A joint booking office sent out a description of services, price lists and order forms.

- Total office space for broadcasting companies 16 250 m$^2$
- NRK ORTO ’94 94 300 m$^2$
- LOOC administration 1500 m$^2$
- Norwegian Telecom 1300 m$^2$
- Joint services 3450 m$^2$
- NRK, host-broadcaster 1700 m$^2$

The total floor space offered to the broadcasting companies was 13 000 m$^2$ and allocated as follows:

- ABU 120 m$^2$
- CBS 5000 m$^2$
- CTV 1000 m$^2$
- CH9 300 m$^2$
- EBU 4545 m$^2$
- NHK 850 m$^2$
- TELEVISA 25 m$^2$
- TVNZ 60 m$^2$
- Corridors, etc. 1100 m$^2$

### Environmental considerations

The property was surrounded by farmland on all sides and there is a view of the river running through the Gudbrandsdal Valley. A beautiful park with trees and bushes was planted close to the IBC. The park is an important part of the entire facility. It was important to harmonize the centre with the surrounding landscape. The centre is built following the slanting hillside and can be accessed from many different levels.
The village was built as a small town on 230,000 m$^2$ of property in Skårsetlia (three kilometres northeast of downtown Lillehammer). It was built complete with all the services required of an Olympic Village, and with a total surface area of 55,000 m$^2$. During the Winter Games, this village housed about 2,300 athletes and leaders from 67 nations.

LOOC rented all buildings and property for temporary accommodation. The village was completed in December 1993. The total cost of building the village was NOK 250 million.

For a small city like Lillehammer, it was clear that after the Games there would not be a need for all the accommodation and housing built for the Olympic event. One therefore decided to build less than the village as permanent housing; the other part would be temporary housing, and would be moved to other parts of the country after the Games.

The permanent part consisted of 185 houses. 141 houses were later sold privately through LOBAS. The rest were built as movable units. The village’s service centre was 7,000 m$^2$; after the Games this would be used as a service centre for retired persons, a cafeteria, a nursery school and a church.

Construction started in the autumn 1992, and the first house was completed on 10 August 1992. In order to complete the village in time, the average production per work day had to be about 250 m$^2$ of building. This level of activity was achieved by using several different builders with different modular systems and levels of pre-fabrication.

Everything from traditional house-building techniques to prefabricated modules were used. All buildings were built of wood. The village has 18,000 m$^2$ of large prefabricated elements.

Two of the builders based their approach on the use of sections. The one area was temporary, and the other became part of the retirement village.

We would particularly like to point out the athletes’ restaurant. It was placed in an atrium between two permanent
buildings. The girders were made of glue-laminate wood. A large glass wall brought the diners close to nature and the snow outdoors. With its 2 000 m², 1 000 persons could dine simultaneously.

There were extensive security control points at the entrance to the village. Further in, there was a bus stop, parking spaces and a reception.

The bus shelter at the bus stop was also made of glue-laminate wood.

The material used to build the reception area was primarily aluminium; it was made in sections and will be moved after the Games.

Four forms of heating energy were used in the Olympic Village homes: electricity, gas, solar energy and heat pumped from 135 metres underground.

Lillehammer Olympic Village

<table>
<thead>
<tr>
<th>Team size</th>
<th>Common rooms m²</th>
<th>Main team leader m²</th>
<th>Team leader No</th>
<th>Medical room m²</th>
<th>Massage room m²</th>
<th>Storage m²</th>
<th>Drying room m²</th>
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<td>2</td>
<td>16</td>
<td>2</td>
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</table>
The Lillehammer Olympic Village began operations in the autumn 1993, and was tested as an Olympic training centre, primarily for Team ‘94 members. The village was also in use during the VI Paralympic Games in March 1994.

Re-building and demounting began in April 1994. The permanent buildings were ready for post-Olympic use in the autumn 1994, while the farmland under the temporary part of the village will again be cultivated in the spring 1996.

**Hamar Olympic Subsite Village**

Accommodation for athletes in Hamar was situated at Toneheim District College (a music school). The already existing buildings could be used as accommodation facilities. Toneheim also owned surrounding vacant property so that temporary accommodation facilities could be constructed. Total floor space was 6450 m². During the Games, 500 athletes lived at Toneheim.

The Subsite Village was located about 3 kilometres from Hamar Olympic Hall.

After the Games, the Subsite Village was closed and the school resumed its activities in the autumn 1994.

**Conclusion**

The following are the most important lessons learned in connection with the Olympic and Subsite villages:

- Select flexible construction systems.
- Wait as long as possible to start building. Build the international zone first, as this zone is not dependent on the final number of athletes and trainers.
- Use sufficient time and money on the planning phase; this is not a regular institutional building.
- Give the facility’s project managers the authority to make independent decisions. Use experienced personnel and give them the necessary basic information about the event.

- This is a fun assignment – the goal being to construct an entire little town from A to Z.
Lillehammer’s hotel capacity was small in relation to the need for accommodations during the Games. LOOC was obligated to provide accommodation for 6,000 media personnel. This challenge was solved by establishing villages at four different sites in and around Lillehammer, and one in Hamar. A basic requirement was that they could not be located more than 30 minutes (travel time) from their main place of work.

In order to achieve this within a budget corresponding to approx. 30% of the total construction costs, LOOC rented approx. 25 hectares of property. This gave LOOC control over the basis for the establishment of the villages.

Agreements were entered into with private contractors to build media accommodations for a set amount per room w/ bed. The contractors had to enter into quite extensive guarantees, and the construction had very strict contract terms in case of delays or breach.

The total surface area in the Olympic Villages was approx. 125,000 m² and approx. half was temporary. The reason for selecting villages was that the post-Olympic market for houses and cabins in Norway was much larger than for hotels. Some of the village houses were moved to other parts of the country after the Olympic Games and used as student dormitories.

Temporary buildings were constructed and insulated exactly like the permanent buildings; the only difference was that the foundation was made so that they could be easily dismantled and moved after the Games.

These Villages were sited around existing building complexes, which functioned as service centres.

Construction period
Building began in spring 1992 and ended in November 1993. Various construction techniques were used, from traditional log houses to the use of pre-fabricated sections. The total cost of constructing all the media villages was approx. NOK 460 million.
Dismantling
Dismantling and moving the temporary villages began in March 1994 and will be finished in the spring 1995. By autumn 1995, all agricultural areas on which temporary Olympic structures had been built will have been returned to their original state.

Villages
Hafjelltoppen
On a 70 hectare land area, 225 cabins with 1350 individual rooms and 120 apartments with 470 individual rooms were built. After the Olympics, the entire cabin area will house approx. 1 500 people. This will be an important contribution to the tourist activity in the Hafjell area.

Hafjelltoppen is situated just above the Lillehammer Olympic Alpine Centre, Hafjell, approx. 95 m above sea level, 19 kilometres from the IBC and MPC.

Each individual unit has four or nine individual rooms, two or four bathrooms and one common room. The rooms vary in size from 8.2 – 9 m².

Sørlia
145 cabins were built near the finishing area at the Lillehammer Olympic Alpine Centre, Hafjell. The cabins have from four to eight bedrooms, from two or four bathrooms and one common room. In all, there are 580 individual rooms. The alpine centre’s service facilities were expanded and served as a 1 200 m² service centre for the village.

There were 110 permanent and 35 temporary cabins.

Jorekstad
Jorekstad is situated approx. two kilometres north of Storhove, the site of the IBC and MPC.

The centre of the village featured an indoor athletics hall which was expanded and used as a service centre.

There were 250 temporary cabins and three permanent cabins, each featuring four individual rooms, two bathrooms and a common room. The village had 19 apartments with a total of 1 058 rooms. The apartments are permanent and will be made available for students and pensioners after the Olympics.

Storhove area
The Storhove area consists of the IBC and MPC, as well as the media villages with a total of approx. 2 400 beds. Of these, approx. 200 are permanent student dormitories associated with the Oppland Regional College. The remaining 2 200 beds were in temporary buildings.
Vormstuen

At Vormstuen, 124 two-storey houses with 1,000 individual rooms and common rooms were built 500-700 metres from the IBC and MPC. The area had its own service centre (1,400 m²). The service centre and all of the houses were temporary and were sold and moved after the Games.

Storhove I

Just below the IBC and south of the press centre, 25 two-storey houses were built with 750 individual rooms and 220 double rooms. Room size was 12 m². Storhove I also contained a service centre. The houses were temporary and were moved after the Games.

Storhove II

48 individual rooms in student dormitories, situated close to the IBC. Room size 11 m². Six rooms had access to shared kitchens, a common room, two WCs and two showers. This facility was a permanent construction to be used by students after the Olympics.

Storhove III

150 individual rooms in dormitories and apartments, close to the IBC. About 60 of the rooms had separate bathrooms. 12 rooms shared three kitchens and three common rooms. Room size was 11 m². There were 90 individual rooms per complex. There were two bathrooms and a common room for each three rooms. All of the buildings were permanent and after the Olympics would be used as student dormitories.

Snekkerstua

One kilometre from downtown Hamar at Hamar Olympic Amphitheatre, 89 permanent houses were built representing 507 individual rooms. There was a separate service centre which after the Games was made into apartments. All the houses were sold as small or large apartments on the open market.

Most of the cabins and houses that were used for accommodation did not contain kitchens during the Olympics. This had to be installed after the Games.
The Lillehammer Art Museum is located next to the main square in Lillehammer. The heart of the museum’s collection consists of two large, private donations. The museum’s exhibition area comprises a newly restored existing building and an adjoining new facility built for the Olympics. The entire project cost NOK 52.3 million and was completed in October 1992. Lillehammer Municipality now owns the building.

**Technical data**
The two museum buildings are connected by an upper-storey bridge. The total surface area is 3 100 m². In addition to the exhibition halls, Lillehammer’s old cinema is also in the original building. The new building has an exhibition area of 2 500 m², and due to its special architecture goes by the name “The Grand Piano”.

The facade facing towards the main square undulates inward toward the building. The facade is made of untreated larch wood. Exposed to weather and wind, the facade will gradually become greyish. Indoors, the large exhibition hall is nine metres high. This will allow large artwork to be exhibited without giving the impression that they have been “pressed into the room”.

**Environmental considerations**
All technical installations recycle excess heat. The indoor climate was a special challenge in that certain art works need a certain degree of humidity. The humidity must be about 45% year round. The exterior landscape was developed by sculptor Bård Breivik and the company Snøhetta Arkitektur-Landskap. They have created a beautiful outdoor garden outside the museum by using rock, water and vegetation. The garden contrasts the use of hard and soft surfaces by using rock and water installations. During the winter, the water installations create natural ice sculptures.
The installation “The mountain” between the upper and lower gardens can also be covered with ice during the winter.

Post-Olympic use
The government’s cultural report for 1994 designates Lillehammer Art Museum as one of six Norwegian art museums that are so-called “central institution”. This means that the government assumes 60% of the cost of financing the museum’s operations.
Maihaugen, The Sandvig Collections

The Sandvig Collections have a history dating back to 1887 when Anders Sandvig started collecting old buildings. Over time, this collection would develop into one of the largest cultural-historical museums in Norway. Sandvig moved old farm buildings and mountain farm buildings from various places in the Gudbrandsdal Valley to Maihaugen, thus creating a unique outdoor museum. His successor, Sigurd Grieg, built the first real museum building; but it was not until 1959 that a management and exhibition hall was made for the museum. This building housed a hall for exhibitions, concerts and meetings. The architect, Geir Grung, designed the building in concrete, and this stood in contrast to the museum’s log houses: a symbol of the museum’s link between the past and the present. In 1967, the concert and meeting hall Store Maihaug Hall was built, under the direction of Fartein Valen Senstad. Later, offices and production facilities for NRK Oppland and a workshop were built on the property.

Key cultural venue
In Lillehammer’s application to host the 1994 Winter Games, Maihaugen was selected as the central arena for cultural activities during the Games. A prerequisite was that a new building had to be constructed that would satisfy Olympic requirements for a cultural arena - an expansion that would make Maihaugen into a year-round museum and a driving force on the local and national cultural arena. The main parties in this process were the Ministry of Culture, Statsbygg (a government-owned construction company) and LOOC.

Planning and construction
In May 1989, The Ministry of Culture gave Statsbygg the contract of studying the possibility of building a concert hall as well as a new exhibition hall at Maihaugen.

A planning group studied various solutions and prepared budgets. After a few rounds of negotiations, the following plan was decided:
- construction of a concert and theatre hall with 750 seats
- construction of an exhibition hall
- re-building and expansion of spectator areas and a renovation of the old workshops
  - On 5 October 1990, the following budget was adopted:
    - The concert and theatre hall: NOK 64 million
    - The exhibition hall: NOK 75 million
  - Construction began in August 1991 by demolishing the old Maihaug Hall, and by February 1993 the new concert hall was completed. By the next summer, the rest of the construction work had been completed.

**Structural adaptations**
The old museum building was a typical example of the architecture of the 1960s. The new building was built as a continuation of this style with similar materials and design, but using modern building techniques. A number of complicated blasts were made to excavate rock as the entire building was founded on bedrock and the excavation work could not disturb adjacent buildings.

The large Maihaug Hall has become a multi-purpose hall for an audience of 750 persons. Prior to the construction, the existing museum building was built to harmonize with the slanting landscape. This also allowed entry into the building from many different floors.

The floor at Maihaug Hall was lowered about 6 metres. This gives the hall increased volume which makes it ideal as a concert hall. The seating area is in the shape of an amphitheatre and consists of telescopic stands which can be retracted.

Above the stage is a 15-metre high frame. This makes the hall appropriate for performances requiring stage sets. For concerts, a special panelled ceiling can be adjusted to meet acoustical and visual specifications.

The building will primarily be used for exhibition purposes, so the interior has therefore been designed to be light and neutral.

**Artistic decoration**
Søren Ubisch was hired in connection with the artistic decoration of the slate floors in the lobby, cafe and souvenir shop. The backdrop in the Maihaug Hall was donated by Gudbrandsdalen Uldvarefabrikk, and was designed by the hall’s architects and Kari Skogstad (textile craftswoman).
The Equipment/Installations Section was organised as a project area led by the Construction Division with a separate project director who reported to the Director of Construction. The section was established in the autumn 1992. In addition to new projects, areas of responsibility included projects that earlier had been spread around in various other departments.

The section had earlier been called the Arena Coordination Section and was organised under the Events Division. The section was staffed by the same employees and managers who had been working with planning the sports arenas. A number of employees transferred to the section from other LOOC departments, and a number of new employees and consultants were hired.

The section’s expertise was primarily of a technical nature, with mostly university educated engineers and architects, as well as persons with financial and/or administrative backgrounds.

In many ways, the section developed over time, and one discovered new tasks along the way. This meant that in certain areas there was no long-term project development such as in most of LOOC’s other sections. This put high demands on the employees’ flexibility, work capacity and professionalism. This also meant that the section’s management had to be able to make quick decisions, delegate responsibility and fully depend on their subordinates.

Areas of responsibility
The section completed the following tasks/projects:
- electro-technology
- inventory, equipment and copying machines
- festival elements, signs and flags (architecture and scenography)
- arena planning

The various tasks are explained in more detail in the following chapters.
Collaboration
The section collaborated with many other LOOC departments. The main cooperation partners were Sport, Broadcasting and Design. Other cooperation partners included public authorities, national sports associations, ORTO, suppliers and sponsors.

During the Games
During the Games, the section became part of the Events Support Division as a separate unit. The reason for this was that the Construction Division was not directly connected to the Main Operations Centre (HOS) during the Games. As one of the largest units, there were 24 persons in all.

The section’s main areas of responsibility were defined as follows:
That athletes/support staff, LOOC, rights-holders, other accredited persons and spectators are satisfied with:
- furnishings
- copying services
- cleaning services
- functionality and climate in temporary buildings
- comfort, view and safety in the stands
- signs
- exciting and visually attractive festival elements
- re functional and have a good visual design – particularly in areas exposed to media coverage.
- That the arena had a stable and uninterrupted supply of electricity.

The staff ensured that all deliveries of goods and services – including emergency services – were at all times available at the arenas.

This section was the link between LOOC’s top management and the section’s contract partners.
This meant that the following tasks needed to be performed:
• To assist and cooperate with the section’s contract partners to solve technical, contractual and administrative problems, as well as evaluate the quality and scope of the planned corrective measures in case of problems.
• Technical and resource support functions within the section’s area of responsibility for the arena management (primarily level one leaders – operations) at all relevant arenas.
• Make new orders and changes to orders between supplier and purchaser.
• Evaluate the contents and follow-up the daily reports from contract partners and level one leaders (operations).
• Daily coordination meetings with relevant contract partners
• Daily coordination meetings in the Construction and Equipment/Installations Sections
• Report to HOS
• Assist HOS
• Review and check the contract partners’ obligation by continuously assessing conditions at the arenas
• Assist the arena management and level one managers (operations) by ensuring that the arenas were functioning according to plans throughout the entire Olympic period; as well as suggest corrective measures called for by special weather conditions or other factors.
For all deliveries, the principle was that the supplier was responsible for the operation and maintenance of the facility. The supplier was therefore subordinate to the arena’s operations manager who reported to the arena manager, as well as to the Equipment/Installations Section.

**Electrical installations**

This area was organised as a separate project with the following main activities:
- Planning and acquisition of uninterrupted electricity supply (UPS and diesel generators)
- Planning of temporary low-voltage installations
- Quality control of established, permanent low-voltage installations
- Establishing a preparedness programme for low and high voltage electricity during the Games. This also involved inspection of certain high-voltage installations.

All arenas had to be built with 230/400 V TNS-systems. The system is internationally recognised, but not well known in Norway. Because of this, a few instances of faulty switching resulted in 400 V being sent out on 230 V circuits. In one case, computer equipment was destroyed, while in another case the electronics in a radio bus was completely destroyed.

Load objects were categorized in the following groups:
- **UPS** = uninterrupted power supply, load with anchored rectifiers/inverters with 10 min. battery backup. Typical load objects are Computer systems/results systems, radio and television production equipment and tele-technical communications equipment. Total UPS need was 2 000 kW.
- **P** = prioritised load, which normally is supplied by the power supply net, but in case of interruption, is supplied through internal reserve power sources after a short break of 2-15 seconds. Typical load objects are: Scoreboards, monitors, 50% of light in halls and UPS-loads. Total P-power need was 9 200 kW.
- **N** = Normal load, which would be supplied from the ordinary power supply net. Typical loads are: Lighting, heating, ventilation and refrigeration facilities, and office and technical installations.

The relatively large amount of uninterrupted power supply was a result of the terms of contracts with rights-holders and ORTO. The power supply is usually extremely reliable in Norway and in no way represented a risk that required such extensive measures. In fact, our experience from the Olympics was that such a large UPS/P power installation itself represented a risk as it increased the vulnerability and reduced net flexibility.

A great amount of work was invested in estimating the power needs of the temporary installations. This was extremely difficult, as there was not sufficient information to work from, e.g. information necessary to determine the correct size of transformers and distributors. Information from earlier Games was of little use, as everything had to be adapted to local conditions. Good estimates were developed based on detailed planning and assessment of equipment, together with LOOC’s other departments and cooperation partners.

Representatives from the municipal and county-municipal power plants, as well as NVE and Statnett, had together with LOOC spent one year examining security and preparedness issues
relating to high-voltage power. LOOC did not have an organisation adapted to tackling problems in this area. Oppland Power Plant, which was “Official Supplier” of electricity, contributed valuable advisory services as a part of the supply agreement. The main philosophy was to base the system on a basically normal organisation, in which the routines and procedures were unchanged for the Olympics, and to base the principles on the power plants’ own preparedness plans. As a part of the work with high-voltage lines, the following was established:

- Thermography of important high-voltage lines in the area
- Surveillance of lines – training in erecting temporary masts via helicopter
- Support surveillance for Lillehammer and Gausdal Energy Plants; assistance serving and testing the transformer stations
- Establishing an Olympic Power Supply Central. The main tasks were to monitor the electricity network, report to LOOC and the authorities (NVE), be a contact regarding power supply issues toward other authorities, coordinate reparations and reserve material, inform in case of accidents and implement rationing measures in the county if necessary.
- Additional preparedness and repair personnel for stations all across Oppland county.

Separate contingency agreements were also obtained with other local power plants in the Olympic municipalities and LOOC. These agreements gave LOOC a high level of preparedness, as well as staffing at the arenas’ net stations during Olympic events.

Overall, this programme was a success. The weather was steady throughout the entire Olympic period; however, extremely cold weather combined with additional loads due to the Olympic activities resulted in record high energy consumption. This was handled without any interruption of supply and with a high quality of electricity supply.

At the arenas in connection with low-voltage power supply, an extensive operation and preparedness agreement was made with ABB Installation (12 000 hours in all). ABB had their own arena managers who reported to LOOC’s arena organisation. ABB also established a separate operations centre for managing, coordinating and advising personnel and LOOC. The Equipment/Installation Section established a separate staff for electric power with 24-hour preparedness. The low-voltage power supply proved more vulnerable than the high-voltage supply. This was due to the strict demands for electricity availability and the large amounts of computer and media equipment which caused disturbances. During the weeks prior to the start of the Games, this was the area that created the most problems and insecurity at the arenas. The importance of planning the electricity supply carefully cannot be emphasized enough. It is of supreme importance that the electricity facilities are completed very early so that there is sufficient time for control of switches, loads and grounding.

Because of the importance of the Opening Ceremony, a demand was made just prior to the Games of a more extensive reserve power system. The Main Operations Centre decided that this should be done, and a relatively extensive installation programme was completed in record time. It is important that contracts have terms allowing for such unexpected situations.
All Olympic events took place without electricity interruption, with the exception of a severed cable during one event; but this did not pose a serious problem. The load level was at times critical, particularly during the Opening and Closing Ceremonies. In such cases, the extensive control and planning work done in advance provided the necessary insight to handle the situation correctly.

**Temporary facilities**

This area includes the following projects and tasks:

- planning and acquisition of tents: 24 000 m²
- planning and acquisition of temporary restroom facilities: 1000 units
- planning and acquisition of temporary buildings at the sports arenas: 14 000 m²
- planning and acquisition of temporary stands: 10 000 seats
- establishment and contingency plans for water, sewage and ventilation

The project managers were also responsible for the planning of all sports arenas, as this was a natural consequence of the planning task for the temporary structures.

With only a few exceptions, all acquisitions were based on rental agreements.

All planning was based on extensive information gathering from LOOC, from the rights-holders, ORTO, national and international sports associations and other cooperation partners, as well as from contracts with LOOC and with the IOC. This information served as the basis for establishing detailed layouts.

Based on the gathered information, a draft was made, in which all solutions were visualised, grouped and localised inside the arena area. The section's architects and planners put a great deal of work into creating unified, functional and architectonically good solutions. The principles for all architectural work had already been decided, and LOOC's architectural committee was also used as advisors.

The first draft of a project was first presented to relevant departmental managers in LOOC in a hearing process; then a preliminary project would be developed; and finally, a main project would be developed. The main projects were established in close collaboration with the arena management and parts of the arena organisation which was operative at this point.

The main project served as the basis for the final supply contracts, which previously had been based on the draft project.

Financially, the draft project and main project came out the same, but a great deal of changes were made in relation to the percentage of tents and buildings.

Tent design was based on requirements for weather resistance, design, ventilation and not least of all the supplier's capacity and expertise. Our strategy was to select one main supplier: a company that could take full responsibility for delivering and setting up the tents and work closely with LOOC's planners.

The large volume and complexity resulted in this work being much greater than originally expected. The weather was very poor during the construction period, so that
construction was severely delayed. This meant that the time for quality assurance and adjusting of heat and ventilation equipment was shorter than planned. The extreme cold, in combination with limited experience in the operation of tents with such low outdoor temperature, resulted in a number of problems the first few days. Additional heating and ventilation equipment had to be brought in. These problems were quickly rectified, and the tents thereafter worked as expected.

Heating was based on propane. These facilities were equipped with acoustic temperature alarms. This proved necessary as a number of heating generators often broke down. The heating capacity in the tents was rather small, and the water pipes quickly froze when there was no heat. An important lesson was to design the heat distribution system in order to avoid condensation problems, and to make sure there is enough capacity in the heating systems.

Tents were used for the following: Sponsor Village, food service at the arenas, VIP and accredited persons, spectators, storage, toilets, start houses, etc.

With respect to the stands, capacity was determined based on figures provided by the Ticket Section. The development of stand design, however, was fully the Equipment/Installation Section’s responsibility. It was a very demanding task, as the stands take a considerable amount of space at the arenas and had to be designed with care. In addition, there were absolute requirements in terms of view, safety and topography. This had to be planned together with the supplier, and this set high demands on the supplier’s expertise and understanding of the task.

Temporary toilets consisted of a combination of toilets with tanks and toilets connected to public sewage lines. The coverage was 250 persons per unit. A number of toilets were designed for handicapped persons. Both LOOC and public authorities set strict hygiene requirements. For this job, it was important to bring in a supplier with experience from major events. The section’s area of responsibility included all sports arenas, as well as Lillehammer. Toilets for the transport terminals were also ordered via the section’s contracts. Additional toilet units were stored in case of unexpected needs. The number of spectators at the Birkebeineren Ski Stadium was much greater than expected, and toilets in storage and from Kvitfjell were moved to cover additional capacity needs.

Many temporary buildings were used at the sports arenas in order to reduce the costs and scope of the permanent structures. One contract was made for the main volume, as well as several smaller contracts in order to cover the remaining needs. An extensive planning programme was needed for the temporary buildings, which were based on prefabricated modules made of wood. Architectural considerations were also taken into account. The same colour scheme (based on LOOC’s Design Programme) was chosen for all modules, with only a few exceptions. The main volume was purchased and was sold after the Games. Some had been rented. In cooperation with the Design Section, an architectural competition was organised for the ticket booths and kiosks. The winning
design was the basis for the development of a prototype in cooperation with an “Official Supplier”. The prototype was successful, and was put in production for use during the Winter Games.

The following agreements were entered into:

- with Röder Tält and Evenemang AB for delivery and maintenance of tents
- with Röder/Sellbergs for delivery and maintenance of toilet installations
- with Moeven Systembygg for delivery of temporary buildings
- with Nüssli Construvit AG for delivery of stands

There were also a number of minor contracts concerning the delivery of goods and services.

**Inventory and equipment**

More than 240,000 m² of space had to be furnished: all sports arenas, IBC, MPC, Lillehammer Olympic Village, Hamar Olympic Subsite Village, Media accommodation and several other support arenas. This was the largest furnishing job in Norway ever.

Early on, it was decided that one main supplier would be chosen who could give an offer based on:

- price in specified product groups
- rental and re-purchase agreements
- interior designing expertise

An agreement was made with the Armed Forces to rent new furniture which they had already been planning to purchase.

LOOC organised a bidding round based on the above-mentioned. The Norwegian furniture industry accepted the challenge and outbid major suppliers in the other Nordic countries. A constellation based on a collaboration among Norwegian producers won the bidding competition.

The products had to be functional, made of environmentally friendly materials and with a texture and design consistent with LOOC’s Design Programme. Price was also an important factor, and was defined on three levels:

1: simple products for short-term use
2: ordinary furniture and equipment with a general design standard and with an average quality standard
3: furniture for special zones; here it was important to show exciting and original products with a conscious design profile.

In addition to the price factor, emphasis was put on the suppliers’ ability to deliver, organise and finance the order.

At the same time, the Design Section organised a design competition for a basic piece of furniture for the Lillehammer Games. The competition was primarily for Norwegian furniture designers. Two winners were chosen, and one of the models was put into production and used during the Winter Games.
The job was quite extensive. LOOC chose to take responsibility for the planning, in cooperation with associated architects and advisors. Those who were going to use the furniture during the Olympics showed great interest in this work. In cooperation with these departments, requirement specifications were developed as a basis for the orders.

The demand for furniture was tremendous in the period of time leading up to the Games. As the arena organisations became operative and all the functions came into operation, there was a tremendous demand for additional furniture. The situation was difficult to balance in terms of keeping within the budget; it often seemed that the Games’ success depended on their being a sufficient amount of furniture. This was probably partly true, as the dissatisfaction of Team ‘94 members and cooperation partners would quickly have had a negative effect on their motivation. The situation was quite difficult to handle, but the problem was satisfactorily solved, and after the start of the Games the demand for more furniture stopped.

**Copying machines**

The demand for copies was solved in cooperation with the TOP III sponsor XEROX. An agreement was made in which XEROX had the overall responsibility for planning and service. LOOC conducted a major study to determine expected need, in which all copying needs and services were quantified in cooperation with the various users.

In all during the Olympic period, 12 million copies were made. Of this amount, 7.5 million copies were made in connection with the results service; the rest was for management and operations purposes. There were a number of different types of copying machines: six 5390 machines at the MPC and one 5390 machine at LOOC’s management offices. This was the largest machine used, and had a capacity of 135 copies per minute. MPC was clearly the arena with the most need for copies. At this site alone, 90 000 copies were made each day (2.5 million during the entire Olympic period).

During LOOC’s entire operations period, 40 million copies were made.

The need for colour copying was significantly larger than first planned – particularly because of the use of colour plotted DAK drawings.

The value of the copying services amounted to NOK 22 million.

All the arenas had satisfactory copying services. There were no machine breakdowns.

**Festival elements, signs and flags**

This work was based on a close cooperation with the Design Section, in which the Design Section was responsible for the design and planning, and the Equipment/Installations Section was responsible for the practical production. Personnel from the Design, Architecture and Scenography Sections were gradually transferred to the Equipment/Installations Section, but continued to report to the Design Section. The Equipment/Installation Section’s main tasks in this connection were as follows:

- Responsible for production: following up budgets; making orders; keeping contact with suppliers
- Responsible for deliveries in cooperation with the planners
- Responsible for staffing the service central during the Games
• Dismantling and removing equipment after the Games

Another function called “planning office” was established in which the manager for the Architecture & Scenography Department was responsible for the overall coordination of all planning activity in regards to architecture and design. The function was placed in the Equipment & Installations Section, with reporting responsibility to the Design Manager. This function was, however, established too late for it to be sufficiently consolidated, and demands in the various projects often overran the intentions of the planning office. Nonetheless, the leader for the planning office was able to offer valuable assistance on architectural issues.

Festival Elements
The preliminary project for festival elements was developed by Design and presented to the IOC, LOOC’s management, the arena municipalities and sponsors. During its development, emphasis was put on the following:
• few, but large, elements
• the festival elements would not dominate the landscape, cityscape or arena architecture
• the impression made by the festival elements and signs would be clear and coherent

Limited economic resources made it important to prioritise the areas of use. The prioritised areas were (in order):
• television pictures; scenography at the arenas
• for the spectators; as screens
• entrance to arenas
• roads to the arenas
• downtown

The project schedule was based on the idea that the elements would be installed the day before the Opening Ceremony in order to obtain the desired effect. This put tremendous pressure on the progress schedule, which had problems with delivery delays. The result was that the installation of elements continued after the start of the Olympics, and priority had to be given to arenas which were to have competitions. LOOC also received criticism from the IOC which felt that there were too few festival elements. This deficiency was somewhat alleviated as additional elements were installed. This, however, put even more pressure on the installation plans. In addition, the television producers often did not follow the agreed television angles, so that already installed festival elements had to be moved in order to be brought into camera angle.

Projects of this nature operate on a fine line and have no room for delays or postponements. They are thus vulnerable to errors or delays from the suppliers. It is therefore essential to establish plans clarifying dependency relationships to external partners, and to have a MA system on the deliveries which ensures 100% assurance that the right product is delivered at the right place at the right time.
Information signs

The information signs were also planned by the Design Section in cooperation with the Sports and Transport Sections. The budget was the same as for the festival elements, and the total planning responsibility rested with Design; the Equipment/Installations Section was responsible for production and installation. An agreement was also made with the Road Authorities concerning signs on public roads.

The same staff working with the festival elements worked with the information signs. The total budget was NOK 11.5 million. About 5,500 signs were produced.

Both cardboard and aluminium signs were made. There was some uncertainty as to whether cardboard signs would withstand moisture and wind. One decided, however, to use cardboard, as it was difficult to use aluminium plates on the already selected mounting system. There was also the risk that in strong winds the aluminium signs could loosen and cause injuries.

Flags

The acquisition of flags posed a number of questions concerning protocol. For example:
- Which rules apply for heads of state?
- Which rules apply for the placement of flags in relation to each other?
- In which order should the flags be raised and lowered?
- Could Norwegian flag rules be used?

The use of flags was the responsibility of the Culture Section which was given responsibility for clarifying the above-mentioned questions.

Flags representing 70 nations were purchased, as well as the IOC and LOOC flags. In all, about 1,150 flags were ordered.

The flags were produced in Norway, in accordance with specifications issued by the International Flag Research Center in the USA. For Taiwan, South Africa and Macedonia, their countries’ NOC flags were used.

For Argentina, Spain, San Marino and Andorra, there was a question of whether the country flags or national flags should be used. The countries’ ambassadors meant that one should use the country flag. After a meeting with the Norwegian Foreign Service, however, it was decided to use the national flags.

The standard flags were 3 metres long and designed to be raised on a 10 metre flag pole. There were also a number of flags made in other sizes, for example, for processions.

In cases where flags were raised on their short side, there was a question of whether flags with left-to-right design had to be reversed and emblems turned 90 degrees. This was the case for Slovakia’s flag, as this was their national custom; but this was not done for any other flags.

For later organisers, it would be helpful if the IOC prescribed regulations on this subject.
Arena planning

As mentioned earlier, the Equipment/Installations Section was responsible for planning and developing technical drawings for all the arenas.

This was solved by assigning architects to each arena – the same architect who worked with the planning of the temporary facilities. These architects, however, had a tremendous workload, since each architect was responsible for several arenas. The arena architect function gradually became more important, as this person later played a key assisting role for the arena manager. When the arena managers went into their positions, the architects had already been working at the arena for up to 1 1/2 years, and therefore had detailed knowledge of the arena. Most of the decisions and contracts had already been made, so that the ability to make changes was minimal. Because of the high quality of work done by the architects, the arenas had very good layouts, and no major changes were needed.

The task was a traditional planning task, i.e. first gather information about what was needed. This provided the basis for the planning activities, which in the end resulted in detailed plans for each arena. The largest task was planning the temporary facilities. All these temporary units were the responsibility of this section, as well as the furnishing of all rooms in both permanent and temporary buildings. To have the responsibility thus centralized was very practical, as one could exchange information and coordinate solutions among the various planning groups. The arena architects laid the basis on which the furnishing group based their plans.

DAK ’94 (CAD)

All technical drawings were made on DAK ’94 (including plans for signs). This section was LOOC’s heaviest user of the system, and was therefore assigned responsibility for running the system. A significant amount of work was put into adapting the system to the sections requirements and needs. In particular, the furnishing project made it necessary to have a graphics interface that was 100% reliable. The load on the system eventually became quite large, and it became necessary to revise the database. Towards the end of the project, the work was quite vulnerable to system errors. Experts were therefore hired in who could quickly rectify errors. In all, the system produced about 15 000 drawings.
Introduction

From the very beginning, cultural activities were meant to play a key role in the staging of the Olympic Winter Games in Lillehammer. National and regional Norwegian culture was to be expressed through a number of different experimental and traditional genres. The Olympic cultural efforts were divided into a pre-Olympic cultural programme and the Olympic Arts Festival starting in January and lasting until the end of the Lillehammer Games.

In close collaboration with many Norwegian cultural institutions, a programme was developed that featured Norwegian distinctiveness in combination with the best Norwegian and international capacities in the fields of music, theatre, arts and handicrafts. The Informal Cultural Programme helped make the national and international celebration a reality at all the arenas.

Detailed plans were the basis for all Cultural Programme activities.

Organisation and training

At the most, the cultural section had 46 employees. As of autumn 1993, these employees were working with the following projects and in the following departments: The Olympic Arts Festival, the Torch Relay, Exhibitions, Public Relations and Finances/Administration.

450 Team ‘94 members were assigned to assist in organising the 285 ticketed and 1 200 other events. The employees were recruited over a period of four years. Most of the group consisted of volunteers. Many were recruited from LOOC’s Team ‘94 database containing volunteer candidates; priority was given to local, experienced people. This proved to be significant both from a quality perspective and from a financial perspective in that lodging and training expenses were minimized. Personnel from national institutions were also hired.

Educational material was produced for the volunteers, and the section organised training sessions.

In general

The cultural efforts received a great amount of press coverage, both regionally and nationally. Most of the larger concerts, presentations and exhibitions were reviewed in the national newspapers, while the regional newspapers covered the local events. The international press also showed tremendous interest; so did international television companies. Particularly popular was the Sami Sijdda.

International cultural projects

The cultural plan from 1991 specified that international efforts should be concentrated on the international torch relay and the Winterland exhibition.

The main events were the Winterland Festivals in Atlanta, Tokyo, Barcelona and Munich. All cultural presentations contained elements of the following: music, theatre, literature, film and Sami culture.

During the Midem exhibition in Cannes in 1993, Norwegian music was presented in cooperation with the Norwegian record industry. During a children’s book fair in Bologna – and at a similar fair in Frankfurt in 1993 – Norwegian literature was presented in cooperation with NORLA.

LOOC’s contribution to the IOC stand at the World Trade Exhibition in Seville was also part of the section’s promotional activities.
Based on the idea that the Lillehammer Games would be a national boost and that Olympic-related activities should reach as many people as possible, the idea of a national Torch Relay was born. In addition to bringing the Flame around the country, events along the way could create additional enthusiasm for the Games. The plan was that local communities would create cultural programmes and other events. In this way, the Torch Relay would become a 75-day "picture book" of Norwegian culture (from 27 November 1993 to 12 February 1994).

In April 1991, LOOC entered into an agreement with Norway Post assigning them responsibility for the practical planning and organising of the Torch Relay. LOOC decided the route, the selection of runners, the cultural programme, the ceremonies, the visual profile and the stage equipment. LOOC was also responsible for press operations. Norway Post and LOOC cooperated closely in the areas of information, marketing, exhibitions, sponsors and administration. For the overall organisation of these activities, LOOC set up an internal committee in which representatives of all aspects of the Torch Relay were represented.

The final route which snaked its way throughout the country, presented a picture of a country with magnificent landscapes, distinctive rural and urban areas and unique historical sites. The entry and exit points to each county were pre-decided by LOOC. Norway Post planned the detailed route. The entire distance was measured metre by metre. Every detail along the route was mapped. A number of practical considerations had to be considered because of the enormous logistics task involved in such an operation. The total route was 12 000 km, 8 000 km of which was on land. Runners carried the torch about 6 500 km of this distance. The rest of the distance, 4 000 km, involved plane transport to Svalbard, fjord and sea crossings. In areas in which it was not possible to run, traditional means of delivering post down through the ages was used.

A flexible events support group followed each step of the relay and provided all necessary assistance. The support
group were transported in a convoy of 24 vehicles. Every evening, a mobile stage was rigged up at the site where the torch would spend the night, and local cultural celebrations were held.

The lighting of the flame for the national Torch Relay took place in Morgedal in the southern part of Norway. Local arrangements and ceremonies held along the route were primarily the responsibility of the various local communities. The Torch Relay received media coverage from the first lighting at Morgedal until the final destination was reached. The number of spectators to have seen the numerous local Torch Relay events was estimated to be around 1 million.

The Olympic Charter specifies that the Olympic Flame shall be lit in Olympia in Greece. This took place on 16 January 1994. From Greece, the Flame travelled to Germany, Denmark, Finland and Sweden, before arriving in Oslo on 11 February. On its international travels, the Flame was the central element in the events held in the mentioned countries. LOOC’s Public Relations and Information Department organised these activities in collaboration with the various NOCs.

The Olympic Flame was flown from Oslo to Sjusjøen (just north of Lillehammer). From there it was brought on skis to Lysgårdsbakkene Ski Jumping Arena.

A major cultural event
The main idea behind the National Torch Relay was to create an event that reached and involved as many people as possible. The goal was to organise a cultural event encompassing a wide spectre of cultural activities, in a scope that never had been attempted before. The challenge was to have each selected local community along the route present a cultural programme unique to that specific site. In this way, the entire country would have a chance to present itself in the course of 27 November 1993 to 12 February 1994.

It was evident that the key to the success of the national Torch Relay lay with amateur organizations and the county and municipal offices of culture. A council consisting of the Norwegian Amateur Theatre Association, Norwegian Song and Music Council, Norwegian Guide and Scout Association, People in Shape for the Olympics and the Confederation of Sports was established. These organizations were 100% behind the project.

The programmes varied from ambitious, professional performances in the larger cities where many of the country’s foremost performers were hired, to local arrangements featuring mostly amateur performers.
The Awards Ceremonies were held based on the idea of staging all of the Awards Ceremonies at one time at the same place. The site was a specially designed arena built at Stampesletta just south of Håkon Hall. The plan was to create a common focal point for the Winter Games, and to create the best possible setting. With the exception of the ice skating events – in which the Awards Ceremonies took place at the competition arena directly after the conclusion of the events – all Awards Ceremonies were held at the same site.

Each Awards Ceremony was introduced by a half-hour warm-up programme with known Norwegian performers, such as Elizabeth Andreasson, Terje Tysland, Lage Fossheim, Lynni Treekrem and Øystein Dolmen.

The ceremonial programme started each evening at 19.00 hours by having the Olympic winners brought onto the arena by horse and carriage. The awarding of the medals followed led by a master of ceremonies.

H.M. The King’s Guard played the national anthems of the winners during the flag raising part of the ceremony. After that, a short choreographed sports vignette was presented. The choreographers Anders Døving and Torill Bernatek produced approximately 40 choreographed vignettes illustrating the various sports events. These vignettes were presented immediately preceding each Awards Ceremony. The composers Geir Bøhren and Bent Aaserud were commissioned to write music for each sports vignette.

The Ceremonies were produced by JVP production company.

The events were very popular and on peak days more than 30 000 spectators attended.
**Music**

**Classical music**
By organising the classical music programme, we wanted to bring together Norway’s foremost music institutions and the most promising young freelance musicians.

External agencies organised events outside of the Olympic Region. Inside the Olympic Region, LOOC Culture was responsible for logistics and organization.

Musically, the Olympic Arts Festival consisted of the following:

**Opera**
The Norwegian Opera staged four Norwegian produced operas and five Norwegian produced ballets. 21 performances were held in Oslo and two in Lillehammer. The commissioned opera “Mysterier” had music by Johan Kvandal and was directed by Barthold Halle. The new ballets were “Mellom amor og psyke (Between love and psyche)”, music by Ragnar Søderlind, choreography by Anders Døving and “Den røde bluse (The Red Blouse)”, music by Anne Grete Preus and choreographed by Dinna Bjørn.

**Orchestral music**
Oslo Concert Hall and Oslo Arts Management organised an orchestral programme, where the main idea was to present major Norwegian symphony orchestras, as well as organize “Meeting of the Masters” encounters for our classical Olympic musicians. In all, seven concerts were held in Oslo and four in Lillehammer, including works by the Norwegian composers Arne Norheim, Halvor Haug and Ketil Hvoslef.

The following orchestras participated:
- The English Chamber Orchestra with Olympic musicians Ole Kristian Ruud as conductor and Sigurd Slåttenbrøkk on the piano.
- The St. Petersburg Philharmonic Orchestra with conductor Semyon Bychkov and Olympic musician Leif Ove Andsnes on the piano.
• The Stavanger Symphony Orchestra conducted by Grant Llewellyn with the Olympic musicians Ole Edvard Antonsen and the Finnish pianist Olli Mustonen as soloist.
• The Trondheim Symphony Orchestra conducted by Ole Kristian Ruud and the soprano Pamela Coburn as soloist.
• The Bergen Philharmonic Orchestra conducted by Dmitri Kitajenko and the cellist Truls Mørk.
• The Oslo Philharmonic Orchestra conducted by Giuseppe Sinopoli with Elisabeth Nordberg Schulz as soloist.
• The National Broadcasting Orchestra held an opera gala with John Nelson conducting, with Håkan Hagegård and Olympic musician Bodil Arnesen as soloists.

Chamber Music
The Chamber Music programme was planned and staged in cooperation with external agencies. A number of Norway’s leading and youngest musicians were asked to choose a musician they would like to play together with and suggest a musical programme. This was put together as a series of chamber concerts, eight of which were held in Oslo and 17 in the Olympic Region.

Two premieres were held of works commissioned by LOOC - one composed by Hafliði Hallgrímsson from Iceland and one by Randall Meyers from the USA.

The following performers participated in the chamber music series:
• The Olympic musicians Grieg Trio with viola player Lars Anders Tomter.
• Lars Anders Tomter with cellist Alexander Rudin and pianist Håvard Gimse.
• Olympic musicians Bodil Arnesen accompanied by Roger Vignoles.
• Olympic musicians Leif Ove Andsnes with violinist Christian Tetzlaff and baritone Dimitri Kharitonov.
• The Norwegian Chamber Orchestra conducted by Terje Tønnessen with the soprano Ragnhild Heiland Sørensen.
• Cellist Truls Mørk accompanied by the pianist Ewa Kupiec.
• CIKADA string quartet with soprano Torgunn Birkeland.
• Soprano Anne Lise Berntsen and Siri Torjusen put together a performance staged by Kjetil Skøien.

Pre-Olympic events
Concerts with the World Orchestra and World Youth Choir.

Other
In connection with an installation of ice sculptures at the Olympic Park (constructed by engineer Jürgen Spelda of the University of Trondheim), a music composition was commissioned from composer Tor Halmrast. The work which was called “IC” was an eight channel “sound installation” for continuous play.

Pop music
Pop music was presented under the title “Olympic Nights” and comprised Norwegian and international musicians in the categories of jazz, pop, rock, roots and entertainment music.

In all, 67 events were held under the topic “Olympic Nights” with the main arena being the “Tent” at Sportsplassen in Lillehammer. Other event sites included Hamar, Gjøvik and Oslo (Rockefeller Music Hall).
LOOC culture was responsible for the commissioning, logistics and organizing of all the concert events.

A temporary circus tent (capacity: 3 500) at Sportsplassen in Lillehammer was the main venue for pop music. 25 concerts were held over a period of five weeks. The “Tent” was run by a staff of 70 persons (20 professionals and 50 volunteers). Catering was also offered at the site.

Fifteen “Olympic Nights” were also held in Hamar, with a staff of two professionals and ten volunteers.

There were five “Olympic Nights” in Gjøvik. A production manager worked closely with the municipality’s programme coordinator to organise the concerts.

Twenty-two “Olympic Nights” concerts were held at Rockefeller Music Hall in Oslo. Rockefeller is a permanent concert house for popular music.

Olympic musicians
Bel Canto, Sissel Kyrkjebø and Bukkene Bruse performed four concerts each during the Olympics in Lillehammer, Hamar, Gjøvik and Oslo. The musicians also had other Olympic assignments.

- Bel Canto composed a piece together with the National Broadcasting Orchestra for the official opening of the radio channel PeTre.
- Bukkene Bruse performed for IBM and Kodak. The group also did a five-day tour together with the Atlanta band “The Foxfire Boys” in the Olympic Region and Oslo in February 1994. The tour came about after a musical meeting in Atlanta in February 1993.
- Sissel Kyrkjebø held two concerts in the Olympic Region together with the Oslo Gospel Choir.

Olympic Fanfare
The official Olympic Fanfare for the XVII Olympic Winter Games at Lillehammer was composed by Nils Henrik Asheim. LOOC was the producer of a CD in connection with this composition. 1 000 copies of the CD were made and distributed to national and international audio and audiovisual media. The CD was not available to the general public for sale.

The musicians hired to play the official Olympic Fanfare were trumpet players Jens Petter Antonsen and Olympic musician Ole Edvard Antonsen. Bjørn Nessjø was the producer. The CD was published by Sony Music Publishing Japan, A Division of Sony Music Artists Inc. Tokyo.

Pre-Olympic concert
The “Spill levende (Play-it-Live)” festival at Lillehammer, where about 600 marching bands from all over Norway participated, marked the 75th anniversary of the Norwegian Marching Band Association. LOOC organized an even larger concert at Lysgårdsbakken Ski Jumping Arena. Stageway Management AS operated as the technical organizer.

The concert was very successful and had 29 870 paying guests. The event was filmed by the Norwegian Broadcasting Corporation (NRK) and aired as a one-hour programme. The programme was seen by approximately 600 000 television viewers.
Olympic dramatic arts included various types of scenic productions, both in relation to genre, size and scope. Norway’s best directors were hired, primarily from the major institutional theatres. International directors were also commissioned, and the end result involved a combination of professionals and amateurs.

The performances in this part of the cultural programme had a total production cost of more than NOK 30 million. Most of this was paid for by sponsors. LOOC’s costs was NOK 4.5 million.

About 95% of the performances were first-time performances.

Theatre productions were primarily staged at the large theatres in Oslo, with LOOC deciding the playing dates.

**Theatre:**

**The National Theatre**

- Peer Gynt, by Henrik Ibsen, directed by Yokyo Ninagawa
  - World premier, 11 February 1994
  - Cooperating partners: Point Tokyo Ltd., Thelma Holt Ltd., Royal Shakespeare Company, LOOC

- Byggener Solness, by Henrik Ibsen, directed by Stein Winge
  - Premier, 26 January 1994

- Maria Q. by Cecilie Løveids, directed by Ketil Bang Hansen
  - Premier 15 January 1994

**The Norwegian Theatre, Oslo**

- Draumkvedet, directed by Bentein Baardson
  - Premier, 19 January 1994

This well-known Norwegian ballad from the middle ages has influenced many a Norwegian artist. The Olympic
Ceremonies’ director Bentein Baardson and composer Arne Nordheim worked together with theatre director Otto Homlun to make this unique performance.

Riksteateret, playing in the Olympic Region
Kristin Lavransdatter, by Sigrid Undset, directed by Kristin Olsoni
Premier, Lillehammer, 27 January 1994
This pivotal work in Norwegian literature was finally adapted for the stage, with the actress Juni Dahr playing the leading role. This represented a new and unique cooperation between national regional theatre, Riksteateret, and the independent theatre group Visjoner (visions).

Toten Teater, playing in the Olympic Region
Trost i taklampa, by Alf Prøysen, directed by Svein Erik Brodal
Olympic premier, Maihaugsalen, Lillehammer 31 January 1994

Dance:
New Carte Blanche
Sølvi Edvardsen, Link:
Director/ choreography: Sølvi Edvardsen
Premier, Maihaugsalen, Lillehammer, 28 January 1994

Black Box Theatre
Min Tanaka, Dance of Life
Director/ choreography: Min Tanaka
Premier Black Box Theatre, Oslo, 17 February 1994

Det Åpne Teater
Kjersti Engebrigtsen, Kristin Lavransdatter, ballet
Director/ choreography: Kjersti Engebrigtsen.
Premier, Det Åpne Teater, Oslo, 19 January 1994

Other performances:
Jon Balkes “Salto millenium”
A celebration of the year 2000
Premier, 19 February 1994 (multi-genre presentation)

Dissimilis
A colourful, exciting Olympic show
Premier: Maihaugsalen, 17 January 1994,

Nils-Aslak Valkeapää
A concert series with the Sami artist and musician.
The idea behind the Informal Cultural Programme was to create an international celebration and festival based on Norwegian traditions and distinctiveness with both amateur and professional participants.

Due to the large number of visitors in the Olympic Region during the events, LOOC prioritized organizing an entertainment programme with a large scope of activities.

In addition to involving professional entertainers, LOOC challenged the population to participate. An important goal was to try to preserve an element of spontaneity, in order to provide the most credible impression of Norway and the Norwegian people.

The Informal Cultural Programme’s primary purpose at the sports venues was to “warm-up” the spectators. Programme participants started their activities already before the spectators entered the arena.

Some members of the press became very interested in documenting this part of the programme, in order to find out the reason behind the tremendous enthusiasm shown by the spectators.

Sport and entertainment were combined to provide a total experience where the arenas’ facilities such as scoreboards, large screens and PA systems were used.

The goal of the Informal Cultural Programme was to take inspiration from Norwegian tradition and history. Among the elements used were the construction of a Viking camp. The camp provided a description of this period in our history by showing clothing, athletic activities, food and drinking traditions.

Norway bases much of its cultural engagement on organised activities. The Informal Cultural Programme activated 8 500 persons from cultural institutions. In all, these persons passed arena gates a total of 20 000 times during the 16 Olympic days.

Because the Games had such a long duration and since all the sports arenas needed entertainment, it was important to
ensure a sufficient scope of entertainment and participants. To make this possible, LOOC provided a grant for 52 productions of local and regional cultural activities. This included productions covering everything from artistic decoration of large outdoor surfaces and CD productions, to traditional folk dancing and spectacular night-theatre presentations.

The Programme also consisted of:

- **Outdoor theatre**
  A number of local theatre groups participated.

- **Music**
  Marching bands, choirs and folk music groups. Brass Bros., one of Norway's best known jazz bands, organised “Jazz guerrillas” in which young musicians would strike unexpectedly around in the Olympic Region.

- **Snow and ice festivals**
  Both in Lillehammer and Hamar, snow and ice festivals were held with participants from around the world.

- **Other cultural activities**
  A large youth camp with participants from around the world was held during the Olympics.

- **A separate activity programme for the public (ACTIVE ‘94)** was held. This was a combination of popular music, sing-alongs and simple choreographed movements.

The Olympic Informal Cultural Programme had a budget of NOK 13.5 million.
In literature, two areas of emphasis were chosen, one national and one international. The national was developed in collaboration with the Norwegian Book Clubs, in the form of a series of books reflecting the diversity in Norwegian literature. Participating in this effort were the entire Norwegian book industry and writer organisations.

The result was a series of large, beautiful gift books, picture books, novels for children and youth, poetry, essays and novels. A key element in the series were the catalogues for the many exhibitions that LOOC organized. Many of the books have been translated into several languages.

Internationally, the goal was to give modern Norwegian literature a boost internationally. This effort was organised in cooperation with NORLA (the office for Norwegian Literature Abroad).

Some books were selected for a trial-translation programme in order to try to obtain a greater public. LOOC set up requirements for the publishers, such as a desire to prioritize authors that for different and often arbitrary reasons had never been translated to a world language.

The result was 15 trial translations of children and youth literature, all presented at the international children's book fair in Bologna autumn 1993. For the large book fair in Frankfurt the same autumn, 11 new trial-translations were made.

Several short stories were also translated, and Norwegian literature was presented at a number of LOOC organised events abroad. Press coverage of these activities was excellent.

Among the Norwegian/Nordic authors presented in Olympic context were:

Knut Faldbakken, Eldrid Lunden, Tormod Haugen, Torill Thorstad Hauger, Nils-Aslak Valkeapää, Kjell Askildsen, Lisbeth Hiide, Mari Osmundsen, Kjartan Fløgstad, Ragnar Hovland and Tormod Haugen.
Sami Culture

The Sami, or their ancestors, were the first people living along the northern coast of Norway, and the first to inhabit the large expanse called Sápmi: an area ranging from the White Sea in the northeast to Femunden in the southwest, and from the Onega Sea in Russia in the southeast to the North Sea and Barents Sea in the north and west.

Most of Sápmi is located in a subarctic climate region. The Sami are a part of an arctic indigenous inhabitants group, also including the indians of North America, inuits on Greenland, in Canada and Siberia, and other peoples in Siberia and on the Kola Peninsula.

Sápmi is very different than most of the other subarctic climate areas. Due to the Gulf Stream, the climate is rather mild. Sápmi is an area with tremendous resources, a great diversity in wildlife and has given food and clothing to its people. Reindeer and fish have always been important for the Sami.

A large part of the Sami population live in areas with a nine-month winter season. The Sami’s adaptation to, and knowledge of winter climate played a central role in the Olympic cultural-historical programme. The programme showed how through tools, clothes and means of transportation, the Sami were able to live in harmony with nature and the climate.

The Sami have been a people without any written traditions, and Sami history has long been neglected and suppressed by the rest of the Norwegian population.

As a Winter Games, it was natural for Lillehammer to emphasise the history of skiing. The use of skis had originated among hunting peoples in the northern areas from the Bering Strait in the east to Sápmi in the west.

Nordic ski history is - to a large extent - Sami ski history. The oldest finds of historic ski artifacts in Norway are located in traditional Sami areas.

The main goal of emphasising Sami culture during the Lillehammer Games was to make Sami culture known to the world. The Samis themselves were a part of the process of
creating these presentations. One goal was to show the
diversity of modern Sami culture. The Sami Assembly
appointed a separate Sami Olympic committee which played
an advisory role with respect to LOOC in everything having to
do with Sami affairs.

The Sami cultural programme
The presentation consisted of Sami sijdda with reindeer
racing, ráidu (sleigh ride), Sami food, sales of Sami handicraft
products, travel information and theatre.

The theatre programme included Beaivvás Sámi Teáther –
“Váikko Cuodi Stálu” (about a hundred stallos). “Stallo” is a
Sami troll, but some believe that these mythical figures arose
based on Nordic and Russian warriors and tax collectors.

A sijdda was built on the shores of Mjøsa, easily seen
between the two bridges to Lillehammer. “Sijdda” is not easy
to translate. The concept describes the traditional organisation
of Sami society and its adaptations to the landscape and to the
resources in the area.

Sami exhibitions included:
- Giedaiguin Váimmus
  Sami cultural history, handicrafts and art.
  A combined duodji and historic exhibition. The duodji
  exhibition shows Sami handicraft traditions down through
  the ages. The exhibition covers products and items of
  various materials from several Sami regions.

- Lávkki, lávki
  Sami modern art.
  Nine Sami modern artists were invited to this exhibition of
  Sami modern art at Oslo Art Society. The artists worked
  using different techniques from duodji to textiles, painting,
  metal, graphics and sculpture. Open 5 February – 6 March
  1994 in Oslo Art Society.

- Arts from the Arctic
  Indigenous peoples from the Arctic.
  The exhibition is one of five corresponding exhibitions in
  Alaska, Canada, Kalaallit Nunaat (Greenland), Nordic
countries and Russia, and was planned at the World Crafts
  Council’s international conference in Kyoto, Japan in 1978.
  Open 21 January – 3 March 1994, Norwegian Folk
  Museum, Bygdøy in Oslo.

- Mijjen Luvnie – “Home”
  Southern Sami touring exhibition.
  This is an exhibition built up in circular form and divided
  into eight seasons. The circle has a strong symbolic
  significance for the Sami. The Sami are also called “The
  eight seasons’ people”. Open 6 February 1994 at Glåmdal
  Museum, Elverum.
Nils-Aslak Valkeapää was the main Sami artist during the Lillehammer Games. He is the artist behind LOOC’s official cultural pictograms Máttaráhkku, as well as the official Sami poster and the Sami Olympic pin.

Sami art and sports set the tone for an entire world during the Opening Ceremony on 12 February with Nils-Aslak Valkeapää’s Aillohas, a specially composed joik, and Sami reindeer drivers reaching out to 2.1 billion viewers.

The following Sami concerts were held:

- Bohten fal niegadit nieguid
  “I came to dream dreams”
  Poetry concert with Nils-Aslak Valkeapää
  13 February in Lillehammer Cinema.

- Vuolggán, lean boahtime – “Go, I’m coming”
  Multi-media concert with Nils-Aslak Valkeapää
  Premiere 15 and 16 February at The Norwegian Theatre

- Nu guhkkin dat mii lahka – “So far, yet so close”
  Concert with Nils-Aslak Valkeapää
  Premiere in Maihaugsalen 17 and 18 February.

- Traditional joik concert in Sijdda 20 and 21 February.
The Olympic exhibition programme began in the autumn 1992 and continued until August ’94, and included exhibitions with a historic and thematic content, as well as a presentation of art and handicrafts. Several of the exhibitions featured foreign participants. In Norway, these works were shown in five Olympic site municipalities and in Oslo. Abroad, they were shown in Atlanta, Tokyo, Munich and Barcelona. LOOC contributed approx. NOK 18 million to the exhibition programme. The exhibitions were visited by more than 1.1 million persons (as of 1 March 1994).

The Exhibition Programme
Lillehammer Art Museum
“Bård Breivik – Sculpture”,
24 November 1992 – 28 February 1993
The opening exhibition in the museum’s new wing featured works by Mr. Breivik who was also responsible for a large artistic decoration project in the museum’s garden.
Visitors: 10 337

“Medaljens bakside (The flip-side of the medallion)”,
11 March 1993 – 16 May 1993
A preliminary presentation of the Olympic Collection ’94. An international collection of modern art based on the themes body, nature and communication.
Visitors: 8 812

“Edvard Munch’s monumental projects 1909 – 1930”
3 June 1993 – 28 August 1993. An extensive exhibition of sketches and works by Norway’s most famous artist, with an emphasis on his monumental works.
Visitors: 24 865

“International workshops”,
4 September 1993 – 31 October 1993
Presentation of the results from three workshops: Present, Åkersvika-Addenda and Ceramics-Ringebu. Painting, jewellery and ceramics.
Visitors: 6 766

“The world is”, international modern photography,
Visitors: 28 887

“Winterland”, 8 February 1994 – 4 April 1994
As a part of the Programme Abroad, this exhibition has been shown around the world: Atlanta, Tokyo, Munich and Barcelona. The exhibition showed the depth and source of inspiration for Norwegian painting over the past 200 years.
Visitors at all exhibitions: 343 887

Maihaugen, The Sandvig Collections,
Lillehammer
“Slowly we won the land” Permanent exhibition. 10 000 years of Norwegian history covering 1,200 m². Uses an entire range of entertainment effects.
Visitors: 167 030
"Roots", 7 March 1993 – 27 September 1993
An exhibition of beautiful Norwegian wood traditions, in art, handicrafts and domestic utensils. The exhibition was also shown in Norsk Form, Oslo 8 January – 13 March 1994.
Visitors: 194 055

Knives, clothes and knitted-wear made by Norwegian amateurs and professionals, handicraft artists and painters.
Visitors: 19 000

"In Touch", 16 January – 10 April 1994
A meeting between the best handicraft artists in the world and Norwegian colleagues. The exhibition featured glass, jewellery and ceramics.
Visitors: 16 436

"Duodji down through the years", 14 January 1994 – 15 April 1994
Combined duodji and culture-historical exhibition showing both coastal Sami and river cultures.
Visitors: 16 500

Between 20 and 30 paintings.
Visitors: 4 900

Lillehammer Olympic Information Centre
Visitors: 17 910

"Artistic decoration projects", 5 May 1993 – 31 May 1993
The first sketches and models for some of the artistic decoration projects.
Visitors: 17 295

"Northern Lights", 14 January – late summer 1994
The exhibition showed both the scientific, mythological and artistic sides of the natural phenomenon.
Visitors: 133 985

Oppland Art Society, Lillehammer
Visitors: 1 500

Lillehammer Art Society
A selection of children’s drawings meant for the athletes at the Winter Games. Over a period of three years, children sent in more than 250 000 drawings to LOOC.
No count of visitors.
Banken Cultural Centre, Lillehammer
The first drawings and models for the decoration projects.
No count of visitors.

Lillehammer Cinema
"Women and the Olympics, from Chamonix to Lillehammer"
No count of visitors.

Håkon Hall, Lillehammer
A selection of entries to the design competition for the Main Flame Cauldron and Torch. The exhibition was first shown in the RAM Gallery in Oslo.
Visitors: 4 398

The photographer Arnfinn Johnsen’s portraits of 60 Norwegian Olympic gold-medal winners. The exhibition has since autumn 1993 been shown around the country and will end up in Håkon Hall, with the addition of the new gold medal winners.
Visitors: 42 368

Exhibitions, Hamar
Permanent from the spring 1993. Photograph Arnfinn Johnsen’s 60 portraits of living Norwegian Olympic gold medallists.
No count of visitors.

Presentation of jewellery workshop.
Visitors: 700
The exhibition was also shown at Format in Oslo, 11 January 1994 – 16 January 1994.
No count of visitors.

Seven different art projects with sculptures and installations in the countryside at Åkersvika and around Hamar.
No count of visitors.

Ringebu Youth Centre
A selection from the ceramics workshop.
Visitors: 325
Glåmdal Museum, Elverum
Visitors: 700

Henie-Onstad Art Centre, Høvikodden, Bærum
"Norway in the middle of the world" 4 February 1994 – 15 May 1994. The exhibition showed the main lines of Norwegian modernist painting in relation to the international scene.
Visitors: 7 000

Visitors: 7 000

Visitors: 7 000

Kunstnernes hus, Oslo
"Network" Olympic Collection '94, 16 October 1993 – 14 December 1993. A complete presentation of international modern art, based on the themes body, nature and communication. The works were purchased to decorate VIP-lounges, reception areas etc. during the Games. The collection will later be based in the art department at Oppland Regional College.
Visitors: 2 500

This retrospective exhibition was dedicated to one of Norway’s greatest art personalities ever.
Visitors: 9 000

Museum of Applied Art, Oslo
Visitors: 3 300

"Norwegian Olympic Design" 15 January 1994 – 20 March 1994. The exhibition showed the Lillehammer Games’ visual profile with emphasis on quality, Norwegian distinctiveness, tradition and uniqueness in everything from license products to architecture.
Visitors: 7 000

Norwegian Folk Museum, Bygdøy, Oslo
"Arts from the Arctic", 1 January 1994 – 20 March 1994
For the first time ever, the indigenous peoples of Scandinavia, Russia, Greenland, Canada and Alaska had an opportunity to exhibit the best of their work, retracing their history and their lifestyles. Paintings, graphic arts, textile art, sculptures, tapestry, etc.
Visitors: 6 918

Oslo Art Society
"Lávki, lávki", from 3 February 1994
The exhibition features the work of nine contemporary Sami artists. The nine artists use different techniques in their artistic expressions.
Visitors: 1 250
Cultural Venues at Lillehammer

The Sandvig Collections, Maihaugen
The Maihaugen Hall at the outdoor-museum Maihaugen was the main cultural venue during the Olympics. The museum is located east of downtown Lillehammer. The museum is a unique outdoors museum featuring historic buildings and interiors from all of Gudbrandsdalen. Maihaugen Hall was finished in February 1993. The latest in sound technology has given the hall unique acoustics. The walls and ceiling of the hall are fitted with reflectors which can be raised or lowered so that the sound can be adapted to the specific event. The hall has a flat floor, and most of the 750 seats have been placed on telescopic stands which can be adjusted so that everyone can have an equally good view of the stage. The side walls have been covered with light, birch wood panels, while the floor of the hall and the scene have been laid in smoked oak.

The Maihaugen Hall was the most used concert hall during the Olympic Arts Festival. International stars, local and national musicians in the fields of classical music, choir, marching band and folk music performed at Maihaugen Hall almost every day during the Arts Festival.

Banken Cultural Centre
In 1895, the Banken Cultural Centre was rehabilitated after many years of decay. The halls in the Centre ones reverberated from the sound of cultural activities. The building was also one of the main cultural arenas during the Winter Games in 1994 – almost one hundred years after the official opening. During the Games, all of Norway’s television audience became familiar with Banken Cultural Centre which was the studio for NRK’s Olympic broadcasts. Curving windows, columns and stucco work are some of the elements which give the cultural centre an impressive look. At the back, a mobile amphitheatre with a capacity of 250 has been installed.
Lillehammer Art Museum
This is Lillehammer’s most important venue for art exhibitions. Also called “The Grand Piano”, the museum was completed in November 1992. The light, wooden building resembles a grand piano in form, with its perfect harmonized lines. The original buildings were completed in 1963. Restoration of the old building and the new annex has given the building a completely new appearance. In all, Lillehammer Art Museum has 3100 m² of floor space. The exterior of the building is covered with wood, steel and glass, while the interior has light surfaces and a floor of marble, granite, slate and wood.
The Decoration Programme is the result of a three-year project with about 30 large and small commissions done by artists, handicraft artists, architects and designers. The commissions were awarded as contract commissions or based on a competition, and the selecting process has been conducted in close cooperation with LOOC’s advisory committee for decoration – a committee consisting of the foremost Norwegian talents in this area. The programme had a budget of NOK 30 million.

**Banken Cultural Centre**
The main cultural arena in Lillehammer has been richly decorated. Finn Lande Andersen provided the decoration for the large window on the landing between the first and second floors. The chandeliers hanging in the staircase have been designed by Ulla-Mari Brantenberg. The 650-kilo crown is in the shape of a pinecone.

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**Lillehammer Art Museum**
The sculptor Bård Breivik has constructed a large stone garden in the area between the new annex and the old part of the museum. The garden consists of a long row of stone blocks that frame the back part of the museum and Breivik’s long stone montage that leads water down into a small pool. The artist feels that the elements water and stone together create a contrast between the water’s soft sensuality and the stone’s hard consistency.

**Olympia Collection ‘94**
The Olympia Collection ‘94 is a collection of international modern art based on the themes body, nature and communication. The pictures have adorned reception areas.
and VIP rooms during the Olympics. After the Games the entire collection will be given to Oppland Regional College in Lillehammer. The collection consists of artwork made by around 35 important modern artists. The works comment on various themes such as body, nature and communication – and the Olympic Games. The curator for the Olympia Collection, Åsmund Thorkildsen, gave the following justification for the establishment of the Olympia Collection: “Art penetrates to the core – behind the shiny side of the medal. Art cannot avoid being interested in how things fit together. With this impetus, the Olympic Collections’ function is a reminder that there is always something behind what we see, and that this is inseparable from what we see... Behind the victor’s brilliant smile is a person full of thoughts and emotions, and behind the success on the cross-country trail is a meticulous diet, stiff muscles, shortness of breath and aching backs”.

The Olympic Flame – Main Flame Cauldron and Relay Torch
The Main Flame Cauldron lighted at Lysgårdsbakkene during the Opening Ceremony on 12 February was designed by architect Henrik E. Nielsen (from the company Fram). The foundation leading up to the Flame Cauldron consisted of a mixture of glass and stone sculpted into a slanted plate structure. The plate symbolizes a compact iceberg cutting its way down into the rocky mound in front of the ski jumping arena. The architectural firm Paul J. Kahr designed the Relay Torch. It has been given the title “Peer”, after the Norwegian theatre character Peer Gynt. The Relay Torch is 1.5 metres high and weighs 1.2 kilos. Its shaft is made of wood, formed by oiled Norwegian birch, and thin sheets of pressure-moulded metal.

Lillehammer Information Centre
At Mesna river near the Lillehammer Olympic Information Centre, Dag Birkeland has installed a “pothole”. The work is a bronze cast of a “pothole” located further up the river. The artist has also cast about 20 bronze “fins”. He has placed these on stones in the river so that they connect the artistic elements together with a larger area of the river.

Lillehammer County Hospital – paintings
The painter Jan Egge has decorated the lobby of the new polyclinic at Lillehammer County hospital. His three paintings “Byen” (the city), “Dalen” (the valley) and “Innsjøen” (the lake) are all descriptions of the countryside around Lillehammer.
Birkebeineren Ski Stadium – Foundations
LOOC gave Jon Gundersen the following challenge: There are 400 metres of wooden walkways at the Birkebeineren Ski Stadium. Decorate them within the given budget. The artist chose to redesign the foundation to make 60 columns holding up the walkways. He based his design on traditional Norwegian construction techniques, which often let houses rest on stone supports, and constructed rounded-off metal foundations that cut down into solid rock.

The Olympic Park – Håkon Hall – Sculptures
The lighted sculpture between Kristin Hall and Håkon Hall was made by Liv Anne Lundberg and Kyrre Andersen. The foundation part of the 14-metre-high sculpture was made of Otta-slate. Over the foundation, there are two transparent columns, consisting of rustproof steel masts covered by teardrop shaped sheets of clear polycarbonate.

In the Olympic Park, in front of the main entrance to Håkon Hall, Istvan Lisztes has placed his 175-centimeter-high sculpture “Mann med liten håndbevegelse (Man with restricted hand movement)”. The sculpture consists of three naked figures in bronze on a stone pedestal.

Lillehammer Skysstasjon – various decorations
Jewellery artist Liv Blåvarp has contributed to this site. The wooden art symbolizes that the bus station is a place with speed and movement. People are on the move, travelling.

Kristian Blystad has decorated the access ramp right across from the bus station.

Espen Gangvik has made a sculpture he calls “Kenji”. The sculpture, which is made in stainless, lacquered steel has been placed at the new railway park in close proximity to the bus station.

Maihaugen, The Sandvig Collections – floor decoration
The specially designed floor in the lobby, café and cloakroom at Maihaugen is the work of Søren Ubisch.

International Broadcasting Centre (IBC) – various decorations
In the roundabout in front of the main entrance to the IBC, Paul Brandt’s 15-metre-high sculpture “Red Tower” has been placed.

Dag Skedsmo has decorated the interior of the IBC with various metal reliefs.

LOOC’s reception – reception area
The counter at LOOC’s main reception in Elvegata was made by Lillian Dahle.

Gjøvik Olympic Cavern Hall – entrance portal
Per Inge Bjørlo’s sculpture adorning the entrance to Gjøvik Olympic Cavern Hall is one of the largest of LOOC’s decoration projects. The
sculpture is made of stainless steel, and Bjørlo has worked together with the Centre for Industrial Research on the construction of the complex geometric structure.

**Hamar Olympic Hall – sculpture and fountains**
In front of the parking entrance to Hamar Olympic Hall, the artist Carl Nesjar has built an eight-metre-high water and ice fountain that will set its mark on the area around the hall both summer and winter.

**Exhibition Square – wall painting**
The wall painting “Open” is the name of the large painting that the artist Laila Nilsen has set up on the wall at the Exhibition Square at Hamar. The work is one of several projects supported by the Development Fund, a joint programme between LOOC and Hedmark and Oppland county municipalities.

**Arrival markers**
Three stone landmarks symbolize the arrival to the Olympic Region. The markers are located in Stange, Gjøvik and Ringebu. The landmarks are the work of artist Kåre Groven.

**Kvitfjell Start House**
The Start House at the Olympic Alpine Centre, Kvitfjell (north of Lillehammer) was also given an artistic decoration. The architect Einar Hagem has given the roof of the start house a special design in the shape of the tip of a ski.

**Hamar Olympic Amphitheatre – stone relief**
The sculptor and painter Inger Sitter has obtained materials from Italy for the stone frieze that is situated in the passage-way connecting two halls at the Hamar Olympic Amphitheatre. The frieze is 32 metres long and is made of white marble, slate-like grey carduso from Italy and grey granite from western Norway.
Opening and Closing Ceremonies
The Olympic Charter calls for an Opening and Closing Ceremony for the Olympic Games and contains guidelines specifying participants, content and sequence of events for the ceremonial part of the ceremonies. The organisers have more freedom to design the artistic part of the ceremonies.
The beginning

In August 1991, Polyvision AS received a contract to participate in the Opening and Closing Ceremonies on the basis of what could be called a preliminary project. The work on preparing a manuscript that would serve as a basis for detailed budgets and further planning of the production was to take place during Phase 1 and was supposed to be completed by 1 May 1992.

Preparations and Albertville

Polyvision was also hired to produce Norway’s contribution to the Closing Ceremony in Albertville. This was much more demanding than had been expected, and Polyvision had very little time in Phase 1.

Norway’s contribution to Albertville’s Closing Ceremony was a success, but Polyvision’s management had to admit that they would not be able to finish Phase 1 by 1 May 1992.

Deciding on an arena

In the design of the ski jumping arena, the winner of the architecture competition had planned that the arena would also be used for the Opening Ceremony. Later it was decided that the Closing Ceremony would also be staged there.

It was a challenge to find design solutions that took into consideration both athletic (sports events) and artistic (Ceremonies) considerations. During construction, a number of adjustments and changes to the arena had to be made, e.g. rooms had to be built under the outrun of the arena. The construction costs ran therefore higher than first budgeted.

After having seen the Opening Ceremony of the Albertville Games, the starting time for Lillehammer’s Opening Ceremony was changed from 13.00 hrs to 16.00 hrs.
Phase 1 postponed
Phase 1 had to be postponed twice. This caused concern in LOOC. Phase 1 was presented on 16 June 1992, and LOOC started the evaluation process immediately. A review of the presented material showed that the artistic demands included in the manuscript could not be completed within a budget of NOK 85 million.

During the autumn, major parts of the programme were cut in order to reduce costs. These deletions were so extensive that the artistic leader Kjersti Alveberg protested. She became more and more worried that the planned deletions would involve a devaluation of the artistic concept that was the basis for the programme.

The cooperation between producer Jo Vestly and artistic leader Kjersti Alveberg was now in a critical phase. When LOOC was informed that Polyvision had not yet entered into a contract with Kjersti Alveberg, a serious breach of trust arose between LOOC and Polyvision AS.

In the autumn 1992, a meeting was held under the leadership of the Director of Culture to review the concept.

After this review, the Director of Culture said she had faith in the artistic concept, but that the cost would probably amount to NOK 135 million. Kjersti Alveberg claimed that her concept could be staged for only NOK 105 million. In September, the LOOC management stopped the entire project, and severed the contract with Polyvision.

After Polyvision
The break with Polyvision and Kjersti Alveberg received great media attention. In the wake of all this attention, there was a discussion about whether it was wise to use such a large amount of money for an Opening and Closing Ceremony. Parallel with the debate on the financial issue, there was a

Next step
The next step was to examine alternatives for the following:

Organisation:
- Organising the work within the LOOC system, either directly inside the organisation or in a subsidiary.
- Cooperating with existing companies, subcontracting the work or co-productions.
- Cooperating with public institutions, for example, the national television company or Norwegian Film.
- Obtaining a foreign producer.

Artistic
One discussed the possibility of working as an artistic team, instead of having a single artistic leader. Several artists were contacted directly.

Conclusion
In October 1992, Bentein Baardson was hired as Artistic Director, and Gunnar Svensrud as Producer. The Opening and Closing Ceremonies were organised as a department under LOOC’s Cultural Section. Gunnar Svensrud now reported to the Director of Culture Bente Erichsen. It was agreed that the department would be based in Oslo.

New problems
The re-organisation of the ceremonies had not solved all the problems. Making the department part of the Cultural Section
proved not to work as planned. It also became clear that there were problems between the Producer and the Artistic Director.

The LOOC management became increasingly worried about this situation. In February 1993, the management decided to make some changes.

New organisation
The Ceremonies Department was taken out of the Cultural Section and would now report directly to Deputy Managing Director Petter Rønningen. This organisational change was probably the main reason that Director of Culture Bente Erichsen resigned on 17 February 1993. Gunnar Svensrud resigned at the same time.

New producer and new concept
Film producer Dag Alveberg was hired on 18 February 1993. Bentein Baardson and dramatic adviser Bodil Kvamme had started to create a concept based on Norwegian folk tales and old superstition, in particular the old stories of “vetter” (supernatural creatures). These vetter became the basis of a new manuscript which began to take form in the spring and summer of 1993.

Work organising and recruiting a completely new planning and staging organisation began immediately.

The new management had to plan and stage the Opening and Closing Ceremonies in one-third of the originally planned time.

As the artistic profession is small in Norway and the ceremonies was such a major production, it was important to get “the best” artists. Several institutions, however, were not interested in cooperating, and would not grant leave to personnel who LOOC wanted to employ for the ceremonies.

Norwegian Broadcasting Corporation (NRK)
Top priority was given to the television broadcasts of the ceremonies. We therefore organised three seminars with NRK/ORTO in 1993. The topic was how to make the ceremonies optimal for television.

Employment contracts
The area that suffered most during the turbulent conditions surrounding the ceremonies was the work obtaining participants, artists and technical and administrative personnel. Norway is a small country, and the most popular artistic and technical professionals are usually tied up in long-term contracts. And selecting Lysgårdsbakkene Ski Jumping Arena as the site for the ceremonies called for a great many participants.

Norway has few professionals in the fields relevant for the ceremonies. However, cooperation between professionals and amateurs is very well developed in this country. One can say that this way of working has become a “Norwegian specialty”.

The project’s budget, however, did not allow for the hiring of many professionals in any event. It was important to be able to work with large groups of amateurs.
Up until one month before the Opening Ceremony, new participants were hired. As in all artistic processes, each problem that was solved created new problems. Things went back and forth during the autumn 1993, and finally the ceremonies began to take shape.

The following were some of the participants involved:

**Air acrobats**
Pål Bergan and Ronny Helgesen from the Norwegian Aero Club were hired to parachute with the 150 m² Norwegian flag. They were also hired to make a “free fall” with skis, sleighs, kick-sleds, etc. for the video which was the introduction to the Opening Ceremony.

**Sissel Kyrkjebø Skoller**
Originally, Sissel Kyrkjebø Skoller was to only participate in the Closing Ceremony; however, she also took part in the Opening Ceremony.

**Masters of Ceremony**
This “family” consisted of Liv Ullmann, Thor Heyerdahl, Stig Løkken (12), Jumang Kang (12), Kristin Floberghagen (11), Jonas Rathke (10), Ida Bang (9) and Kitty Lossius (7). Their task was to introduce all of the main elements in the ceremony in Norwegian and English. They also greeted each country’s athletes as they entered onto the arena during the athletes’ parade in the country’s native language.

The project manager for the children was Maria Bang.

**Children’s choir**
The choir consisted of 400 children from 16 children’s choirs from areas around Lake Mjøsa. The project manager was Tove Lundborg.

**Nils-Aslak Valkeapää**
The joik is the original musical form of the Sami. As a cultural means of expression, the joik is both productive and versatile. Nils-Aslak Valkeapää’s musical activity has meant much for the renewed interest in joik.
**Sami culture**
The Sami community was closely involved in the planning of the ceremonies. They wanted to show reindeer with sleighs and pulks, and wanted to be dressed in Sami attire. All the clothes, sleighs and harnesses were hand-made by Sami handicraftsmen. “Duodji” is what they call this tradition. The company Reindeer Experiences AS was hired to contribute to the Opening Ceremony. The project leader was Nils I. Hætta.

**Folk dancers, musicians, Telemark skiers**
Odd Lund played the jew’s-harp, ram’s horn and willow flute. More than 80 skiers from the two skiing clubs Sondregruppen and Telemarkkjørere were hired to ski down the ski jumping hill.

About 250 folk dancers and 150 folk musicians from 14 music and dance clubs around Gudbrandsdal Valley were also hired. All of them were dressed in Norwegian folk costumes. The project leader was Rasmus Stauri.

**Horses and the Olympics**
Eight organisations were contacted. The members of these organisations were all horse owners interested in promoting three types of Norwegian horses: Fjording, Dølahest and Nordlandshest. The project leader was Geir Ottar Enger.

**Folk costumes**
The idea was to show the world Norway’s folk costume traditions. The work selecting which costumes would be part of the ceremony was given to The Norwegian Council of Folk Costumes and its leader Magny Kalberg. The folk costumes were modelled on old Norwegian costumes from pre-industrial society. Because of the geographic and demographic situation in Norway, a multitude of local variations and traditions have developed down through history.

Few countries have and use as many different costumes as Norway does.

**Bridal procession from Hardanger**
A traditional bridal procession was held, as well as a “Jonsok wedding” (Midsummernight wedding), which is a 150-year-old tradition from Hardanger.

**The Olympic Flag**
The Olympic flag was carried into the arena by Norwegian veteran athletes, chosen by the various sports organisations.

**The Olympic Flame**
Ole Gunnar Fidjestøl was selected by the sports organisations to make the ski jump which would bring the Olympic Flame into the arena during the Opening Ceremony. However, Mr. Fidjestøl had an accident during practice jumping for the event, and so the back-up Stein Gruben had to step in and make the jump during the Opening Ceremony. Katrine Nøttingsnes was chosen to carry the Flame across the arena, and she handed the Flame over to H.R.H. Crown Prince Haakon Magnus who lit the Olympic Flame Cauldron.
The King’s Royal Guard
The King’s Royal Guard was the first unit hired after Baardson and Alveberg took over. They have always played a key role in major Norwegian winter events, and this tradition would be followed up during these Games as well.

Jazz Mix group
In the Olympic Region, there was already a large group of amateurs from 7 to 70 years of age who had dancing as a hobby. They were organised in something called “Activity” led by Ellen Berntsen.

Thus, about 340 persons from Fagernes to Hokksund became part of the ceremonies.

In addition, about 50 professional dancers were hired.

From the military, about 200 of the best military skiers were hired to perform daring “ski stunts” down the outrun of the two ski jumps.

Choreographers
Leif Hernes and Anne Grete Erichsen from the group Dance Design were hired as choreographers. In this large and complicated production, it was important to have professional assistance.

Other choreographers were also hired: Lee Otterhold, Håvard Engell, Karene Lyngholm, Hanne Riegel, Bibbi Winberg and Ellen Berntsen (choreographic consultant).

Scenography and costumes
In a small country like Norway, there are not many people who can take on such a major task. Yet, there are those with the necessary experience and artistic creativity that such a project demands.

LOOC chose persons who in their fields are internationally recognised. Kari Gravklev (The Norwegian Theatre) was hired to design costumes; John-Kristian Alsaker was hired as set designer; and Guri Dahl was hired as projection designer. Both the outruns would be used as a “screen” on which images and colours would be projected onto the white snow.

Light and sound design
John-Kristian Alsaker and Michael Hallbert were hired for this purpose.

Special effects
One realised early on that this would be an area that would demand special expertise. The company Pyroproffs was hired to provide fireworks and other pyro-effects.

Music
Through all the organisational changes, the same person remained responsible for the music, Egil Monn Iversen.

The music played a very central role in the ceremonies. Folk music would be a key element in both of the ceremonies.

The choice of composer for the artistic part of the ceremony might have surprised a few. Arne Nordheim is one of Norway’s most famous and internationally recognized contemporary composers. Bentein Baardson had directed several plays in which Arne Nordheim’s music played an important role. This was probably the most important reason for selecting Mr. Nordheim as the main composer of music for the ceremonies. A young contemporary composer, Rolf Wallin, was also hired, and Dag Kolsrud was hired to compose start sequences for both ceremonies.

Monn Iversen wrote the music which was played during the athletes’s procession into the arena. It was based on old Norwegian folk music.
Iver Kleive and Knut Reiersrud made a new version of a variation of an old Norwegian folk song, and it was given the title “Mercy”. This was used for the final artistic part of the Opening Ceremony.

Rehearsals
Since most of the participants were amateurs, rehearsals had to be scheduled during the weekends. A network of choreographers was also organised close to where the amateurs lived. This work came in addition to the weekend rehearsals.

The amateur participants also did other forms of exercise to prepare them for the major event. Rehearsals usually started at 11.00 hours and lasted until 18.00 hours. There was a break for dinner.

The large distances meant that a transportation system would have to be developed. Thus, the ceremonies' logistics department was given a taste of the challenges that awaited them during the Olympics. The distance between Fagernes and Hokksund is about 500 km. Suffice to say, this was a challenge.

The first rehearsals took place in an area called Strandtorget in Lillehammer. Later, rehearsals were moved to Lysgårdsbakken where a rehearsal tent and eating facilities were installed. At some of the largest rehearsals during the autumn 1993, more than 800 persons were gathered. The transportation and feeding of these participants worked according to plan.
The day we had been planning for so long had finally arrived.

A successful Opening Ceremony would mean so much for the event and for the team spirit of those working in the Olympic organisation. The Opening Ceremony would set the tone for the rest of the event. Head of Operations Petter Rønningen said it thus: The public’s impression of the Opening Ceremony will be the key factor determining their overall impression of the Lillehammer Games.

During the last week before the Winter Games, there was a great amount of snowfall. For all those involved in the preparations, this caused major problems during the final rehearsals. Each day, literally tons of snow had to be removed from the ceremony site at Lysgårdsbakken.

Snow and wind would be the worst possible weather during the Opening Ceremony. This would have ruined the television coverage.

Freezing temperatures descended on the Lillehammer area just prior to the Games. Temperatures ranged from -15°C to -20°C. The ceremony participants and technicians had been involved in outdoor tests since the summer of 1993, so they were used to enduring low temperatures.

The weather on 12 February 1994 gradually improved. When the gates opened at 12.00 hours, it was sunny and clear, with a slight snowfall now and then. Perfect.

Each spectator was given a white cape upon entering the arena. The idea was that the entire arena – including the spectators – would be white. This would provide a better contrast to the colours worn by the Opening Ceremony participants.

In advance of the ceremony, the spectators were entertained by a well known Norwegian entertainer. At 15.45 hours, a 400-strong children’s choir and the military marching band entered the scene and went to their seats. The children’s choir formed the five Olympic rings at the outrun of the ski jumping hill, and were met with tremendous applause from the spectators who admired their wonderful costumes.
Let the Games begin

For the first time, NRK ORTO’s opening vignette appeared on the television screen. This was followed by a video showing parachuting acrobats in action with skis, sleighs and snowboards. Finally, they opened a large flag, and when the spectators looked up into the sky, they saw that what they thought was a video was actually happening high above their heads.

High above Lysgårdsbakken, two parachuters came down with a 150 m² Norwegian flag between them. They had timed their jump perfectly. The jump was also a new Guinness record for parachuting with such a large flag.

Thor Heyerdahl, Liv Ullmann and seven children welcomed television viewers and spectators alike to the opening of The XVII Olympic Winter Games in Lillehammer 1994. They reminded us that the year 1994 was chosen by the United Nations to be a year for sport, and that it was the second time Norway hosted the Olympic Winter Games.

The Sami

As the parachuters flew high above the arena, the Sami artist and musician Nils Aslak Valkeapää appeared at the centre of the arena. He sang a specially written Sami joik.

In the middle of the joik, reindeer-driven sleighs came onto the arena and circled around Valkeapää. The last sleigh broke out of the circle, and Valkeapää grabbed onto a rope behind the sleigh and “rope-skied” out of the arena together with the rest of the reindeers and sleighs.

Telemark

In their introduction, Liv Ullmann and Thor Heyerdahl reminded us all that all culture reflects both contemporary society and the past. In response to this, a Telemark skier came skiing from the top of the K90 hill playing a Hardingfele (traditional Norwegian fiddle). He jumped, made a somersault in the air and landed elegantly in the outrun of the K120 hill, skiing the rest of the hill in perfect Telemark style. At the bottom of the hill, he handed the fiddle over to Øystein Romtveit who started playing a traditional Norwegian folk song.

From a specially made jump between the K90 and K120 ski jumps, a number of Telemark skiers came one after one at tremendous speeds and showed their fantastic skiing skills first jumping and then skiing down the ski jumping hill. They were followed by dozens of skiers who skied Telemark down the ski jumping hill. Upon reaching the bottom of the hill, they began dancing a Norwegian folk dance.

Fiddlers and folk dancers

The arena was flooded with 250 folk dancers and 150 folk musicians from around the Olympic Region. They were brought out onto the arena on 50 sleighs drawn by typical Norwegian horses. Once having arrived at their designated positions, they began playing and dancing another traditional Norwegian folk dance.

Arrival of the Royal Family

To the music of Arne Nordheim’s “Venit Rex”, the Royal Family arrived on two sleighs. The sleigh arriving with the King and Queen was the same one that brought the late King Håkon VII to the Holmenkollen Ski Festival.

The King was greeted by the musicians and the folk dancers waving handkerchiefs in red, white and blue. They were met by LOOC President Gerhard Heiberg and IOC President S.E.M. Juan Antonio Samaranch.
Wedding celebrations
Two types of wedding celebrations were staged. A “Vossabryllup” is a long procession with the bride and groom, followed by horses and guests. There was also a “Jonsokbryllup”, in which children “simulate” the adults’ wedding. Both of these old wedding traditions are still in practice today.

Procession of athletes
According to tradition, Greece’s athletes were the first to enter the arena, followed by more than 2000 athletes from 67 nations (a new record).

Leading each nation onto the arena were several sign-carriers wearing Norwegian traditional costumes, chosen from around the country.

The accompanying music was specially written by Egil Monn Iversen and was based on Norwegian drumming traditions and Norwegian folk melodies. Each country was greeted in Norwegian, English, French and in the country’s native language.

Pictures of the Olympic Flame as it approached the ceremony site were shown on television and on the giant screen at the arena.

Speeches
LOOC’s President Gerhard Heiberg held the first speech. He thanked the Norwegian Government for all their support, and emphasised LOOC’s intention to create a sports celebration in which culture was a central feature. LOOC had also tried to make the event in “a Norwegian manner”. This meant that the spectators would be able to get as close as possible to the athletes. “This was a proud moment for everyone who had worked to prepare for the Olympic Games,” said President Heiberg who held his speech in English and French.

President S.E.M. Juan Antonio Samaranch brought up the environmental dimension of the Lillehammer Games in his speech. He also pointed out that these Games represented the 100th anniversary for the IOC.

He asked that the spectators rise for a moment of silence for the people of Sarajevo, who ten years ago hosted the Olympic Games.

The climax of the ceremony came when President Samaranch asked the Norwegian King to open the XVII Olympic Winter Games. The King then declared The XVII Olympic Winter Games in Lillehammer 1994 for officially opened.

The Olympic Flag
The flag was carried into the arena by eight Norwegian sports heroes: Hjalmar Andersen, Egil Danielsen, Halgeir Brenden, Bjørg Eva Jensen, Stein Eriksen, Linda Andersen, Heidi Sundal and Grete Waitz.

At the same time, a choir consisting of 400 children entered the arena and walked toward the centre where Sissel Kyrkjebø was standing. To the singing of the Olympic hymn, the flag was raised.
Lighting the Olympic Flame
Ole Gunnar Fidjestøl’s fall during a practice ski jump two days before the Opening Ceremony showed poignantly what a tremendous challenge it was to ski jump on the K120 hill carrying a torch. Luckily, he was not injured, but the reserve jumper Stein Gruben had to step in on very short notice.

The Olympic Torch was carried the last distance to the ski jumping tower by veteran jumper Reidar Liaklev. Brit Pettersen Tofte ran the last distance up the ski jumping tower to where Stein Gruben was waiting ready to jump. Mr. Gruben had little time to prepare, and had only had time for a few test jumps. As he waited at the top of the tower for the Torch from Ms. Pettersen, Arne Nordheim’s power music “Beacons” played across the Lysgårdsbakken hills. This was the moment when a whole world held its breath.

Stein Gruben landed safe and sound.

There was a roar from the spectators and Mr. Gruben handed the Olympic Flame over to Kathrine Nøttingsnes, who – being weak-sighted – was accompanied by an escort and delivered the Torch to H.R.H. the Crown Prince. H.R.H. the Crown Prince ran up the spectator stands and up the stairs to the Main Flame Cauldron. In perfect timing with Arne Nordheim’s music, the Prince lighted the Olympic Flame Cauldron.

Oaths
Vegard Ulvang issued the Olympic oath on behalf of all the athletes, and Kari Kåring issued an oath on behalf of all the Olympic judges and referees.

Royal Guard
174 members of the Royal Guard then marched into the stadium. To the music of Jon Brakstad’s “Prelude Olympic”, the guard’s marching band gave an excellent presentation of what amateurs can achieve with hard work and discipline.

This marked the end of the ceremonial part of the Opening Ceremony.
Artistic part
Nature and culture
To reflective tones from Odd Lund’s ram’s horn playing “Gjendines bånlåt”, Liv Ullman read the introduction to a short tale about the “vetter”. It began as all tales begin:

Once upon a time...

What are “vetter”?
Vetter are creatures from Norse mythology. They lived underground and in mountains, or in outhouses or barns. There were both good vetter and evil vetter.

In the gap between nature and culture, a world of imagery has evolved which has influenced Norwegians as a people and a nation. Many artists have been inspired by this rich source of imagery. So were Bentein Baardson and Bodil Kvamme (the writers of the manuscript for the Opening Ceremony).

In our tradition, the vetter are peace-loving creatures who live in close interaction with nature. It was important to treat the vetter well so that they would work with, and not against, human beings.

Anxiety and courage
Suddenly a head broke through the white snow cover on an empty arena. It was a wonderful creature in a beautiful costume. The world saw its first vetter.

The vetter looked around in amazement. What a strange place!

At another site, two feet broke through the snow cover. Gradually, more and more vetter came to the surface. At first they were careful to try out the new surface under their feet, but gradually they became accustomed to it.

A continuous stream of vetter came up from below the arena. The bravest ones helped the others, and showed them what to do. Down both of the outruns to the ski jumps came vetter in slow motion. It seemed like they were defying the laws of gravity. The secret was that they were connected to a wire similar to that which mountain climbers use. The spectators could not see the wires and it appeared as though the vetter could stand perpendicular to the slanting outrun. As the vetter became used to the surface, they became more courageous and playful.
Expectation and preparation
The vetter were dressed in five different types of costumes in the Olympic colours. Costume designer Kari Gravklev used old Norwegian costumes and patterns as models. The five vetter clans symbolised the five continents, and we soon understood that they had come for a very special purpose. Hundreds of vetter gathered together in the arena.

Alone and together
They formed a giant sun which radiated across the entire arena. They began to pull on ropes as if they were trying to drag something up out of the earth. A strong light came up from the depths of the earth, and a giant egg slowly came into view.

Ceremony and victory
The vetter moved close to the egg as if to protect it. The source of life had to be kept warm and protected. The egg raised itself on end and the earth’s five continents slowly came into view on the egg’s surface. This was the “Tellus egg” symbolising our earth. The vetter wanted to remind us to take care of our earth.

Life and future
Slowly the egg began to rotate, while it opened up. Out of the egg came a giant dove which slowly reached out its wings. Thousands of artificial doves were released and rose slowly up into the dark winter night.

A gigantic fireworks display marked the conclusion of the Opening Ceremony.
C l o s i n g  C e r e m o n y

The same spectacular winter weather that had graced the 16 Olympic competition days also served as a backdrop for the 35,000 spectators who came to the Lysgårdsbakken arena to experience the Closing Ceremony.

At the entrance, each spectator was issued a flashlight bearing the inscription “Remember Sarajevo”.

Only 48 hours earlier, the last event at the ski jumping hill had been concluded. During these 48 hours, the ceremony staff had worked around the clock to prepare the hill for the Closing Ceremony. A well-prepared and beautifully illuminated hill met the spectators as they arrived at the arena.

Inside the arena, a warm-up programme was organised for the spectators, led by Knut Bjørnsen.

On the basis of the success of the Opening Ceremony, and the relief and joy over the fact that the Games had been such a success, the expectations and spirit among the spectators were extremely high.

A 400-member children’s choir again formed the Olympic rings on the outrun to the ski jumping hills. A military orchestra took their seats, and just before 20.00 hours, the military guard’s parade melody announced that the Royal family had arrived at the arena.

The Closing Ceremony could begin.

The start
NRK/ORTO’s television vignette was shown for the last time. Afterwards, a cavalcade of highlights from the 16 Olympic days was shown. The focus was not only on moments of victory, but a taste of the athletes’ and spectators’ general contribution to the 16 unforgettable Olympic days. Dag Kolsrud’s music accompanied this flashback.

Welcome world
Liv Ullmann and Thor Heyerdahl together with the same seven children from the Opening Ceremony bid the spectators and the world welcome and the athletes’ procession began.
Athletes' procession
The Olympic Charter specifies that the athletes during the Closing Ceremony shall parade into the arena without being divided up into their respective national teams. The strict order that characterised the Opening Ceremony had now been dissolved.

At first, the sign-bearers came in consecutively in fours carrying the national flags. This was followed by the athletes and coaches from the 67 participating nations in rows of six. All competitive aspects were laid to rest, and the mood was tremendous among the athletes.

The parade started with the melody “Nudua” by Frode Thingnæs, followed by the most Norwegian of all Norwegian marches “Valdresmarsjen”. This was followed by music from the Brazz Bros. and the Tre Bukkene Bruse.

The Brazz Bros. have roots in traditional Norwegian folk music and have created a fusion of folk music and jazz. The group Tre Bukkene Bruse also base their repertoire on Norwegian folk music, but perform their music in a more traditional form. As “Olympic Musicians”, they were a key element in LOOC’s cultural efforts abroad in the time leading up to the Lillehammer Games. During the last part of the parade, we again heard Dag Kolsrud’s “Olympia”.

Transfer of flags
After the athletes were seated, the Greek, Norwegian and Japanese flags were raised while the respective national anthems were played.

At the same time, IOC President S.E.M. Juan Antonio Samaranch, LOOC President Gerhard Heiberg, Lillehammer Mayor Audun Tron and Nagano Mayor Tasuka Tsukada took their seats on the stands in the middle of the arena.

Mayor Audun Tron handed over the Olympic flag to President S.E.M. Juan Antonio Samaranch, who then gave it to Mayor Tsukada from Nagano. The Nagano mascots, the Snowlets, then entered the arena. The next organising city had received the Olympic flag, symbolizing that it was their turn to arrange the Winter Games.

Environmental “message stick”
Lillehammer’s efforts in promoting a third Olympic dimension, the environment, was expressed when Mayor Audun Tron gave a “message stick” to an environmental expedition. This symbolized the start of a voyage during which the expedition would travel on skis and would be drawn by dog teams from Lillehammer, across Siberia, to Nagano. Once in Nagano, they will deliver the environmental message stored in the “message stick” to the next Winter Games organiser. This journey was expected to take one and a half years.

LOOC President Gerhard Heiberg
In his speech, LOOC’s President thanked the IOC and President Samaranch for the confidence they showed in Norway by awarding Lillehammer the 1994 Winter Games.

In English and French, he thanked the athletes, the coaches, the media and the thousands of volunteers for their contribution.

He particularly thanked the Norwegian spectators who in their own special way showed the world the love and enthusiasm Norwegians have for winter sports.

IOC President Juan Antonio Samaranch
Samaranch thanked the Royal Family and the Norwegian Prime Minister in his speech. He reminded everyone about Sarajevo’s situation, and hoped that The Olympic Movement could help alleviate the difficult situation the city’s citizens
were in. He also thanked the athletes, the Team ‘94 members and the media for their contribution in making the Games a success. He also emphasised the “green dimension”.

LOOC President Heiberg was given the IOC’s gold medal.

When President Samaranch expressed his opinion that the XVII Olympic Winter Games were the “best ever”, the spectators erupted in applause. The Norwegian victory song “Seier’n er vår” (Ours is the victory) was sung several times before Samaranch could continue. He then thanked all Norwegians with these words: “To you, the people of Norway, it is my great honour to say that you are the real winners of these magic Games”. He invited the world’s sports youths to meet again in four years in Nagano. He then declared The XVII Olympic Winter Games in Lillehammer 1994 for officially closed.

The Olympic flag is lowered and carried out

The solemn moment came when the Olympic flag was lowered and carried out of the stadium. Eight Norwegian veteran athletes carried the flag: Knut “Kuppern” Johannesen, Magnar Solberg, Peder Lunde Jr., Jon Rønningen, Berit Aunli, Britt Pettersen Tofte, Ingrid Hadler and Birte Hegstad.

To the accompaniment of the Olympic hymn, the flag was lowered, and the slow march to the centre of the arena began.

The 400 children who made up the Olympic rings in the arena moved from their positions to the centre of the arena where Sissel Kyrkjebø was standing. The 400-strong children’s choir went out in a choreographed pattern while Sissel sang the Olympic hymn. Sissel and the children met the flag in the centre of the arena. While the flag was carried out to the exit, the children ran under it and out of the arena.

Children are a very important part of all Norwegian ceremonies. The departure of the Olympic flag was a moving, solemn occasion. The children made sure that there was also optimism and spontaneous joy interwined in the event.

This concluded the ceremonial part of the Closing Ceremony.

Vetter enter the arena

The vetter we came to know in the Opening Ceremony flooded the arena from all sides. They also wanted to take part in celebrating the 16 days of Olympic competitions and festivities.

They entered carrying torches and danced the vetter’s happy folk dance.

All five vetter clans representing the five continents also wanted to participate in the celebrations. In this manner, they wanted to emphasize what the world had learned by following the Lillehammer Games: that Norwegians have a very special feeling for winter activities, and that winter can be a time for festivities and fun. Norwegians’ leisure activities are often related to nature.

Strong and weak

In Norwegian mythology, there are both good and evil vetter. Norwegians’ belief in supernatural creatures has roots going back to Norse mythology. Tales and folk songs have been passed from hand to hand for centuries and have set their mark in Norwegians as a people.
Powers of nature and magic
Any harmony can be disturbed. When we least expect it, the evil powers can come and exert their negative forces.

From under the Lyggedalsbakken arena, the evil troll “nøkken” emerged. From subterranean passages, the evil vetter flooded the arena and chased the good vetter up the ski jumping hill. To the powerful music of Arne Nordheim’s “Magma”, the evil vetter took charge of the arena. As in real life, things can go from bad to worse. Suddenly, both of the outruns were set ablaze via pyro-effects and transformed into a waterfall of fire and light. Down from above, 200 evil vetter came rushing down the hill as “Fossegrim” (supernatural beings believed to live beneath waterfalls). They were standing on “snowrunners” which were mini-skis fastened under slalom boots. To the spectators, it looked as though they were standing on nothing more than their feet. Pyro-effects were attached to the backs of these evil vetter’s feet. The Fossegrim and Nøkken joined together at the base of the hill and began to dance a circular pattern.

Force and impotence
The evil vetter conjure up three enormous forest trolls which slowly rise up from the ground. Simultaneously, the large light towers surrounding the arena are transformed into giant troll. Evil threatens from all corners, and it seems that the powers of evil will triumph.

Transformation and deliverance
But the good vetter return. According to Norwegian folk legend, trolls cannot survive direct light. If exposed, they turn to stone. All across our country, there are stone figures and tales about how trolls were exposed to light at these sites and transformed into stone.
Behind the scenes, 180 employees and more than 100 Team ’94 members worked hard. There were also 100 military personnel who worked to help stage the ceremonies. Without all these people’s hard work, our success would not have been possible. Most of the participants were volunteers, and this shows that the spirit of common purpose and community is alive and well in the Norwegian people. Norwegians showed the world that also small countries and small cities can organise unforgettable Winter Games.

Budget
During the fourth budget review autumn 1993, the ceremonies’ budget was reviewed based on the new concept that had been presented. The final budget for the ceremonies was NOK 98.7 million. This amount includes the costs of constructing five additional underground rooms (NOK 1.3 million) and a reserve fund of NOK 8.5 million. The final total for the ceremonies was NOK 92.4 million.

Balance and harmony
The white-clad vetter enter into the arena and dance a beautiful “dance of liberation”. Liv Ullmann and Thor Heyerdahl read excerpts from the United Nations Declaration of Human Rights. This was a strong manifestation of the Olympic Games’ peace message which was central for both the Opening and Closing Ceremonies. At the end of this part, the Olympic Flame was extinguished.

At this moment, the athletes in the stands turned on their flashlights, followed by the 35,000 spectators. Even though the Olympic Flame no longer burned in Lillehammer, its symbol would live on.

Snowlets from Nagano
The Snowlet mascots from Nagano came down from the spectator stands, wandered around the arena and finally walked over to the Norwegian, white-clad vetter who greeted them. From all the entrances to the arena, large helium balloons were carried onto the arena and were put together to form Nagano’s symbol for The XVIII Olympic Winter Games in 1998. Music and text were based on Japanese folk music. The snowlets welcomed the world to Japan in four years.

To the tune of the Norwegian folk melody Dovregubbens Hall (the troll cavern) all the mythical characters from the Opening Ceremony came onto the arena once again. The Norwegian and Japanese participants joined in a dance to symbolize the conclusion of the Lillehammer Games.

The beginning and conclusion as one
The Opening and Closing Ceremonies became a manifestation of Norwegian culture and tradition. The ceremonies’ scenography and message of peace reached out as we had hoped.

From all corners of the world, we received feedback that the press and television viewers had been impressed by what they saw. In Norway, 1.9 million television viewers watched the Closing Ceremony. Never had so many Norwegians seen the same television programme.

Of the more than 2,200 participants in the ceremonies, only 50 were professional dancers. The rest were amateurs from Hedmark and Oppland counties, with different backgrounds and ages ranging from 7 to 70.

Behind the scenes, 180 employees and more than 100 Team ’94 members worked hard. There were also 100 military personnel who worked to help stage the ceremonies. Without all these people’s hard work, our success would not have been possible. Most of the participants were volunteers, and this shows that the spirit of common purpose and community is alive and well in the Norwegian people. Norwegians showed the world that also small countries and small cities can organise unforgettable Winter Games.
Post-Olympic Use and Development
"When Lillehammer Municipality decided to apply for the Olympic Winter Games, the primary reason was as a means to achieve important social goals for the municipality, the region and the entire country." This statement was included in Lillehammer Municipality’s renewed application for a financial guarantee from the Government for the Winter Games in 1990. The purpose was to revitalise eastern Norway and provide a stimulus for growth in the entire country.

The central authorities have also emphasised post-Olympic use and the benefit for businesses in their decision concerning the public sector’s involvement in the Olympics. Parliamentary Resolution no. 29 – 1988-89 concerning regional development expresses high expectations about the social benefits of such an event: “The Winter Games will be the most important factor contributing to growth and development in eastern Norway up until the turn-of-the-century.”

In many ways, one can say that post-Olympic use has been the real goal of the Games. But there has also been agreement that a good event was a precondition for post-Olympic success.

It took five years from the time Lillehammer was awarded the XVII Olympic Winter Games and until the Closing Ceremony of the Lillehammer Games. It will also be relevant to see the results from the post-Olympic work in an equally long time perspective. It is therefore much to early to sum up the results of the work now, just six months after the Lillehammer Games. This presentation will therefore primarily focus on the range and order of priority of tasks involved in the work based on financing from the post-Olympic fund. This, however, is just a small part of the total scope of post-Olympic activities involving public employees, private companies and organisations.
Here are a few examples:

- The selection of wooden structures at Hamar Olympic Hall (The Viking ship and Hamar Olympic Amphitheatre) led to the use of similar wooden materials in other larger projects, for example, in the airport terminal at Oslo's new main airport (Gardermoen).

- Norwegian Constructing Group is working on exporting the building concept used at Gjøvik Olympic Cavern Hall. The group already has a potential customer in Canada.

- The United Nations’ environmental programme (UNEP) would like to use Lillehammer’s environmental experience in their global work with sports and the environment.

- The IOC’s inclusion of environmental criteria as a requirement for future Olympic organisers takes advantage of the expertise developed in Lillehammer.

- The Olympic radio and television centre will provide the basis for an increase in the number of students in Lillehammer from about 600 to about 1700 or more in the not-so-distant future.

In addition to a number of concrete and measurable results, employees in organisations, companies, and the public sector have gained valuable skills by participating in the Olympic project.
What stimulus to growth is the post-Olympic work founded on? The topic has been the subject of extensive analyses from various perspectives. The following will provide only a summary overview of the most important ones:

- The marketing of Norwegian culture and lifestyle, as well as Norway and the region through the attention received from the international press and media.
- The Lillehammer Games’ profile: design and environment.
- Upgrading municipal infrastructure such as roads, railway and telecommunications facilities.
- Buildings: sports arenas, cultural centres, offices and educational facilities.
- Private and public sector expertise; in particular, event expertise and coordinating between the owners of arenas, organisations, private companies, public institutions and individuals.
- Property and rights from LOOC: computer systems, a register of LOOC’s contact network, the organisation’s archive material and LOOC’s Design Programme.
- A network of LOOC’s cooperation partners and suppliers.
Already in the first budgets prior to the Games, one was aware that enormous financial funds would have to be earmarked for a post-Olympic fund. In order to anticipate this need, the Norwegian parliament adopted principles for building up the fund and at the same time emphasised that post-Olympic activities were a local and regional responsibility. The government’s responsibility was only to grant a one-time financial grant.

The post-Olympic fund consists of four components:
- NOK 65 million grant from the Ministry of Labour and Local Government
- NOK 65 million in grant from LOOC’s budget
- 30% of LOOC’s income in excess of the original budget
- Any remaining reserves in LOOC’s budget

According to LOOC’s accounts, this has resulted in a post-Olympic fund of NOK 380 million. It will take a few years until the full amount has been paid into the fund. In addition, a certain uncertainty is attached to some of the amount. Taking into consideration all these uncertainties, the estimated value of the post-Olympic fund as of April 1994 is NOK 345 million.

The post-Olympic fund has been distributed to the various local and regional post-Olympic companies.

Tasks and roles for the post-Olympic activities
The post-Olympic work is organised on a local and a regional level. The main traits in the allocation of responsibility between levels was decided already in 1991, in connection with the Ministry of Labour and Local Government’s approval of a post-Olympic plan for the Olympic area.

Local responsibility:
- Day-to-day management and operation of the sports arenas, including marketing of activities at the arenas.
- Product development based on or related to the arenas in order to make them more attractive for various types of events and visitors.

Regional responsibility:
- Marketing, promoting and acquisition work aimed at making the entire region more popular; partially through marketing and partially by placing larger, media-focused events in the region. Attracting major international sports events is the main goal, but also other types of events can alone or in connection with a sports event be relevant.
- Business activity based on expertise and systems that have been developed in connection with the Olympic Games.

To assist with the post-Olympic work, the municipalities have established local companies. Lillehammer Utvikling AS (LU) is owned by Lillehammer Municipality (80%), Øyer Municipality (10%) and Ringebu Municipality (10%). The company is both a travel promotion company and a management and development company for the Olympic arenas. The company manages Lillehammer Olympia Vekst AS which owns the arenas in Lillehammer. It also owns Kvitfjell Alpinanlegg AS and is the main shareholder in Hafjell Alpinanlegg AS.

The arenas in Hamar and Gjøvik are owned and run by Hamar Olympiske Anlegg AS (HOA) and Gjøvik Olympiske...
Anlegg AS (GOA), respectively. These companies are owned by the respective municipalities.

The expectations concerning opportunities and challenges in connection with the Games have been particularly linked to the travel industry. Already in 1991, Hedmark and Oppland County-Municipalities established the company Troll Park AS. On the one hand the company would promote and market the travel industry in the region (Hedmark and Oppland counties). On the other hand, the company would run a guide and tour service. An important task for the company before the Winter Games was to organise private accommodation for visitors to the area.

As of 1 January 1993, Hedmark and Oppland established the company Olympia Utvikling AS. This was meant to be a development company responsible for post-Olympic use of LOOC’s property and Olympic-related commercial development programmes. The company would also market the arenas toward organisers of large sports events. The regional post-Olympic fund became the founding capital of Olympia Utvikling AS, and the company’s board was given authority to make decisions concerning the use of the money in the fund.

As of 1 January 1994, these two companies merged, so that Olympic Utvikling – Troll Park AS are now one company for both travel and development purposes, with the regional post-Olympic fund as its source of financing.

Olympia Utvikling – Troll Park AS has proposed the following local and regional distribution of post-Olympic funds:

<table>
<thead>
<tr>
<th>Company Name</th>
<th>NOK Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lillehammer Olympia Vekst AS</td>
<td>146</td>
</tr>
<tr>
<td>Hammar Olympiske Anlegg AS</td>
<td>59</td>
</tr>
<tr>
<td>Gjøvik Olympiske Anlegg AS</td>
<td>27</td>
</tr>
<tr>
<td>Kvitfjell Alpinanlegg AS</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total for local fund</strong></td>
<td><strong>252</strong></td>
</tr>
<tr>
<td>Earmarked grant for the establishment of an Olympic museum</td>
<td>18</td>
</tr>
<tr>
<td>Regional development fund</td>
<td>75</td>
</tr>
<tr>
<td><strong>Post-Olympic fund total</strong></td>
<td><strong>345</strong></td>
</tr>
</tbody>
</table>

Because of the competitive situation among the alpine centres, no money has been granted to Hafjell Alpinanlegg AS.

In the proposal for an allocation of post-Olympic funds, a condition is that the fund will partially cover any operational losses the arenas may experience over a period of 20 years. In addition, funds have also been set aside for the completion and development of the arenas, so that they can be used as multi-purpose halls. The expected deficit from operations not covered by the fund will be covered by the municipalities. The expected total yearly deficit for the sports arenas is NOK 25.5 million.

Regional post-Olympic activities
The goals for the Olympic project specify two types of regional challenges:
- Post-Olympic use connected with the opportunities and needs as a direct or indirect consequence of the Games.
The desire that the Lillehammer Games would result in growth and development in eastern Norway. As a consequence of this, the post-Olympic regional activities will be focused in four areas:

- Promoting the region and its businesses with particular emphasis on the travel industry. It will be particularly important to contribute to a growth of the travel industry to meet the additional accommodation capacity in the region.
- Cooperation among the arena companies concerning the marketing and use of arenas for major events, with an emphasis on cultural and international sports events.
- Programmes for business development as a result of product and market opportunities created by the Games.
- Commercial development projects.

The travel industry

The marketing of the Winter Games combined with the press coverage Norway and the region experienced contributed to giving our travel industry unique publicity. This has resulted in a considerable increase in the number of visitors the last few years. In the Lillehammer area, the number of bed-nights in accommodation companies has increased by 65 % from 1990 to 1993. In the first half of 1994, the number of visitors increased by 13.5 % in relation to the preceding year.

In connection with the Winter Games, about 6 200 new beds have been established in hotels/motels in the Lillehammer area. In relation to the 1989 level, this translates into a need to double the number of visitors to the area. Even with the new sports and cultural arenas now in the region, nobody is sure if the area can attract enough visitors to fill the capacity.

In the marketing plan for Olympic Utvikling - Troll Park AS, the goal is to increase the number of visitors by 7 % per year and the duration of stay by 10 % for the entire region (Hedmark and Oppland Counties). The company’s investments include:

- New approaches and forms of distribution. The company participates, for example, in a European Union project to establish an electronic distribution network for the travel industry (TIM).
- Development of infrastructure. In order to strengthen the information to both residents in and visitors to the region - and thereby contribute to increasing the duration of stay for visitors - the company is building up a regional IT-based information system (Info-box).
- New product niches are being developed, for example, tourism linked to major events, as well as agriculturally based travel concepts.

The Nordic countries and Germany are the region’s most important markets.

Commercial development

The work can be grouped into two categories: activities and business development programmes. The former is primarily based on property and expertise from LOOC and includes:

- Post-Olympic use of LOOC’s computer systems.
- Commercial applications of CAD ’94.
- The Lillehammer Olympic Experience AS presents the Lillehammer Games and the region.
- The company is working on making LOOC’s database a common resource for post-Olympic companies.
- Olympic Design Lillehammer AS has been established to work with design development and licensing based on LOOC’s Design Programme.

Together with Team Birkebeiner’s nine member companies, Olympic Utvikling - Troll Park AS has established the Team Birkebeiner Company Development Foundation for the purpose of increasing sales from Norwegian industry to members of the Team and their affiliates in Norway and abroad.
Postscript
Green, red, white and blue. These are the colours calling to mind two unforgettable weeks in Lillehammer. The 1994 Winter Olympics were a “green” Games, with white snow, enthusiastic spectators waving red, white and blue flags and 16 days of blue skies.

On a backdrop of snow, ice and sub-zero temperatures, the Lillehammer Games were characterised by human warmth. Athletes, trainers and visitors from around the world contributed to the international celebrations. My hope is that the Lillehammer Games has contributed to strengthening the Olympic Ideals of international brotherhood and understanding.

A particular atmosphere characterises an Olympic championship. Even if different languages and dialects fill the air, everyone has a common understanding. No one needs an interpreter to understand the drama of sports expressed through disappointment and joy. At Lillehammer, we all witnessed dramatic athletic moments.

The Lillehammer Games meant a breakthrough for environmental work in international sports. The open and genuine interest shown by the International Olympic Committee (IOC) in developing new environmental goals will undoubtedly contribute to strengthening the Olympic Movement. With its efforts, LOOC has shown that high goals are compatible with staging an Olympic Games. Future organisers will now be expected to comply with strict environmental demands. Even more important, perhaps, is the focus this has put on environmental work in general.

On behalf of the Norwegian Government, I would like to thank the IOC for the confidence they showed Norway in awarding Lillehammer the XVII Olympic Winter Games. All Norwegians were proud when the, IOC president during the Closing Ceremony declared the Lillehammer Games “the best Games ever”. For a nation with strong traditions in winter sports, this recognition was deeply appreciated.
New challenges have presented themselves for both Lillehammer and Norway after the Games. Through the Games, we wanted to showcase Norway and Norwegian values to the rest of the world. I feel we did our best to take advantage of this opportunity. Never before have so many people followed television broadcasts from an Olympic Winter Games, and in some countries the broadcasts from Lillehammer were among the most seen programmes ever. This overwhelming international attention, combined with all the experience gained through this event, will benefit Norway for years to come.

Even though this is now behind us, we hope that most of the people who visited Norway during the Games will return for a visit. I also hope that the many who watched the Lillehammer Games on television will one day come and visit our country. It was a pleasure to host the world’s best athletes, and guests from around the world. If we have made new friends, then the most important Olympic Ideal will have been accomplished.
As the county mayor in Oppland, it is a pleasure to describe the positive effects the XVII Olympic Winter Games in Lillehammer have had for this region.

The Olympic investments made possible improvements that otherwise would have taken 20 years: road improvements from Oslo to Ringebu (north of Lillehammer), a renovated water and sewage system, an improved railway connection to Oslo and the most modern telecommunications network in the world. In all, the area received about NOK 12 billion in public and private investments over a four year period. The 27 000 m² International Broadcasting Centre (IBC) has given Lillehammer College the opportunity to increase the number of enrolled students from 600 to 3 000 students, and joint projects with Lillehammer County Hospital have given the hospital a polyclinic worth NOK 17 million.

We are proud that the planning of the Winter Games went smoothly, efficiently and in accordance with democratic principles. An Olympic planning forum, in which all the central parties contributed to the planning in direct meetings, made efficient use of time and resolved potential conflicts before they arose. This process preserved the surrounding landscape and environment in an excellent manner.

The county-municipality had the main responsibility for the “Olympics on home turf” programme and developed an educational programme for primary and secondary schools. The International Olympic Committee (IOC) would like future Olympic organisers to follow our example of how schools can integrate the Olympic Games into their educational programmes. Our teachers contributed to training 10 000 volunteers, and a significant number of service personnel attended service and language courses.
The business community in the two inland counties supplied 42% of all goods and services to the Lillehammer Games. In all, 96% of the supplies came from Norwegian suppliers. The Lillehammer Games created work for 600-1,900 persons over a four-year period, and the economic effects of the Games has been significant.

The county municipality coordinated and hosted a programme for businesses in which travel companies and export companies in the county were able to invite their best customers here during the Winter Games. The purpose of the programme was to build a network for mutual development and exchange of information. In addition to the 65 foreign tour operators from 11 countries who came to Lillehammer during the Games, 35 Oppland county companies had between 200-300 Norwegian and foreign guests visiting during the Games. I would particularly like to emphasize the importance that these contacts are and will be for the region.

Regional and local efforts in coordinating regional information produced an unprecedented media focus on the Olympic Region. This has been important not least of all for the future development of the region’s tourist industry.

Perhaps most important, the Lillehammer Games has given us renewed self-confidence and new expertise. We have become better at languages, received more international attention and have opened ourselves to the world. The elements contributing to this include: a tremendously successful Olympic event, the friendliness and endless enthusiasm of the Team ’94 members and the way the spectators contributed to making the Olympics a true international celebration. We shall now look forward to carefully managing the investments made during the Lillehammer Games. A good basis for growth in inland Norway has been made through a successful Olympic event.

Lars Skjølaas
County Mayor
The most important argument for bringing an Olympic Winter Games to this area when the work first started on the application in 1982 was that it would have a significant effect on the financial development of the region.

As an inland district, the Lillehammer area has not kept pace with the financial development of the coastal areas which have petroleum resources. Agriculture and forestry have dominated in the inland regions, and the average income level has been lower than in many other parts of the country.

The idea was that by organising an Olympic Winter Games the region would attract investment capital, expertise and businesses which would provide jobs and increase the standard of living.

There is no question that the 1994 Winter Games has given the region an important boost and will continue to benefit the region for many years to come.

Organising an Olympic Winter Games is more than building a few sports arenas. Other investments may prove to be even more valuable. In the Lillehammer region, for example, municipal, regional and national authorities have made investments in infrastructure that otherwise would not have been made until about 20 to 30 years.

The road system in the entire region has been modernized. A number of significant railway improvements between Oslo and Lillehammer have been made. Telecommunications and power plants have been significantly upgraded.

The municipality has through its own investment programme in municipal infrastructure (roads, water, sewage) invested approximately NOK 500 mill. These are investments that will benefit the region for decades. I would in particular like to point out the environmental benefits that these investments have had, for example, that all sewage from the region – including tourist areas in the mountains – is now thoroughly treated before being released into lakes and rivers.
Because of the great number of buildings constructed for the Winter Games, the area has attracted a number of national institutions. The 27 000 m² International Broadcasting Centre, for example, will be used by a local university. This will result in this institution becoming a heavyweight in education and research in inland Norway.

Organising an Olympic Winter Games necessarily involves major consequences to the environment. We are, however, glad that environmental considerations have always weighed heavily in the planning for the Lillehammer Games, and these efforts were confirmed when LOOC received an environmental award from the United Nations earlier this year.

The Lillehammer Games have also given us sports and cultural arenas that we will have for decades, providing positive experiences both for those who live in the region and for those who visit. These arenas are also a basic element in the sites that will provide a basis for the region’s tourist industry.

The Olympic event was a great experience for everyone living in the Olympic Region. We are all glad and proud that we could provide the world with top-class sports events and competitions. We were also happy to present the best of Norwegian winter-nature, culture and traditions. All this has undoubtedly helped promote Norway abroad. And this, in turn, has made all Norwegians more conscious of our national heritage.

Audun Tron
Mayor of Lillehammer
Future use of the Olympic arenas will be an important criteria for assessing the success of the Winter Games in a post-Olympic context. It is therefore important that the local arenas have the financial foundation which can ensure the operation and maintenance of the arenas in the future.

The development work at the arenas is critical in order to further develop the expertise and investments left in the wake of the Lillehammer Games.

The post-Olympic use companies are also responsible for marketing and operating the arenas, and in this way are important cornerstones for the tourist industry in the region. The amount of visitors at some of the arenas equals that of the most popular tourist attractions in the region. This is in part due to the multi-purpose design of the arenas (e.g. the plastic and porcelain tracks on the K90 hill at Lysgårdsbakkene Ski Jumping Arena, the climbing wall at Håkon Hall, the simulator for the Downhill course at Kvitfjell and the wheel-bobsleigh at Hunderfossen). Nevertheless, we must expect that the general interest in the arenas will diminish over time, and so we must work actively to continuously renew this interest.

The marketing, operating and developing of the arenas is a part of the overall effort to attract major events and boost the travel industry in the region.

The XVII Olympic Winter Games was an unforgettable experience both for Norwegians and a great many people around the world.

“The best Games ever” is the traditional description made by the IOC President after an Olympic Games; we are convinced that he has never meant this more genuinely than after the Lillehammer Games.

All aspects of the Lillehammer Games functioned to perfection – even the weather gods were 100% on the side of the organisers. When the Norwegian athletes also delivered top accomplishments in most of the sports events – Norway won the most medals during the Lillehammer Games – we must say we could hardly have expected any more.
There is no question that the event has had and will continue to have a very important positive effect for Norway. The following positive effects are particularly worth mentioning:

- More people around the world know about Norway.
- The Olympics gave Norwegians more self-confidence.
- Competitive sports have become more prestigious in Norway, and this will facilitate the recruitment of new talents.
- The Norwegian Olympic Committee’s Olympic involvement has strengthened the bonds between sports organisations and public authorities.
- The Olympics has afforded the sports community greater income opportunities than previously, and this will help finance a more professional apparatus for Norwegian athletes.

Throughout the Lillehammer Games, Norway’s organisational and athletic talents and expertise have attracted the attention of an international audience. Praise has been received from athletic organisations, public authorities, businesses and individuals from around the world.

In relation to winter sports, there is no doubt that Norway has strengthened its international position. This should manifest itself in increased international influence in this area. With several state-of-the-art Olympic arenas, Norway will in the future be a strong contender to stage major international sports events.
New Opportunities!

With this report, the official Olympic film and the dissolution of the Lillehammer Olympic Organizing Committee in 1995, a new chapter has been written in Olympic history. On behalf of LOOC, our employees and others who have contributed so much to this chapter, let me say this: we can all be proud of our accomplishment!

And we should harbour great expectations for the opportunities presented us – opportunities not only for Lillehammer and Norway, but for the entire sports and cultural communities and for the Olympic Movement.

Each Olympic organizer puts itself on display for an entire world as a result of the enormous media interest in the Olympics. The media’s attention is intense, but it also offers the organizing city a rare opportunity to promote itself. For a little nation such as Norway, such an opportunity can be invaluable.

The Norwegian business and artistic communities, the sports organisations and the Norwegian people could hardly have presented themselves more convincing than we did in February. We presented a modern, cultural nation with a wide-range of expertise and advanced technology, and with a talent for innovation and development. This opens doors, makes contacts and provides opportunities for cooperation and development on all levels. We are grateful for the many opportunities this has created for Norwegian businesses and society. We shall prove ourselves worthy.

I am convinced that the Lillehammer Games has also contributed positively to the Olympic Movement. The IOC and all of the Olympic Family is more in focus than ever, not least of all due to the IOC’s ability to be open for new ideas, assume responsibility and act. LOOC, Lillehammer and Norway are thankful for being able to contribute to this development in a few, yet critical, areas:

- We have shown that the Olympic Games can be successfully staged within a modest framework, and that a small nation can demonstrate competitive skills as an organizer.
We have achieved unprecedented positive media coverage for a Winter Olympics. And for the first time, coverage of African athletes has become part of an Olympic Winter Games.

We have contributed new focus on solidarity in the Olympic Movement through our work in helping establish “Olympic Aid”.

Lillehammer ’94 became a milestone for ecology in an Olympic Games context. New environmental standards have been set with regard to the planning, building and equipping of arenas, as well as in regard to the environmental demands put to sponsors, suppliers and other collaboration partners. Valuable experience was gained in the organizing of environmental work, and in the extensive promotion of the environmental message. With the IOC President’s interest and commitment in this area, I believe the Olympic Movement has gained significantly from these efforts, and will further develop this field in Olympic Games to come.

For Lillehammer and Norway, the Winter Games have offered unlimited opportunities. My hope is that this chapter will also be seen as a valuable addition to the Olympic history book, and serve as a source of inspiration for the IOC, international sports organisations and future organizers.

Let me express my heartfelt appreciation to the Norwegian spectators, the Norwegian sports community, LOOC employees and all the volunteers for their tremendous contribution. Let me also thank Prime Minister Gro Harlem Brundtland and her government for enduring and excellent support, the Norwegian Royal Family for their active involvement and participation, and the IOC and the international sports community for the confidence they showed in us and their valuable support.

A special thanks to President Juan Antonio Samaranch, the IOC staff and members of the coordination committee.

The opportunities await us. Let us get to work.

Gerhard Heiberg
President of the Lillehammer Olympic Organizing Committee
Arenas

Lillehammer Olympic Bobsleigh and Luge Track

Lysgårdsbakkene Ski Jumping Arena

Birkebeineren Ski Stadium

Kvitfjell Alpine Centre

Hafjell Alpine Centre

Kanthaugen Freestyle Arena
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