

NCE NODE

Cluster Development - A Practical Case

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Innovative Foresight Planning
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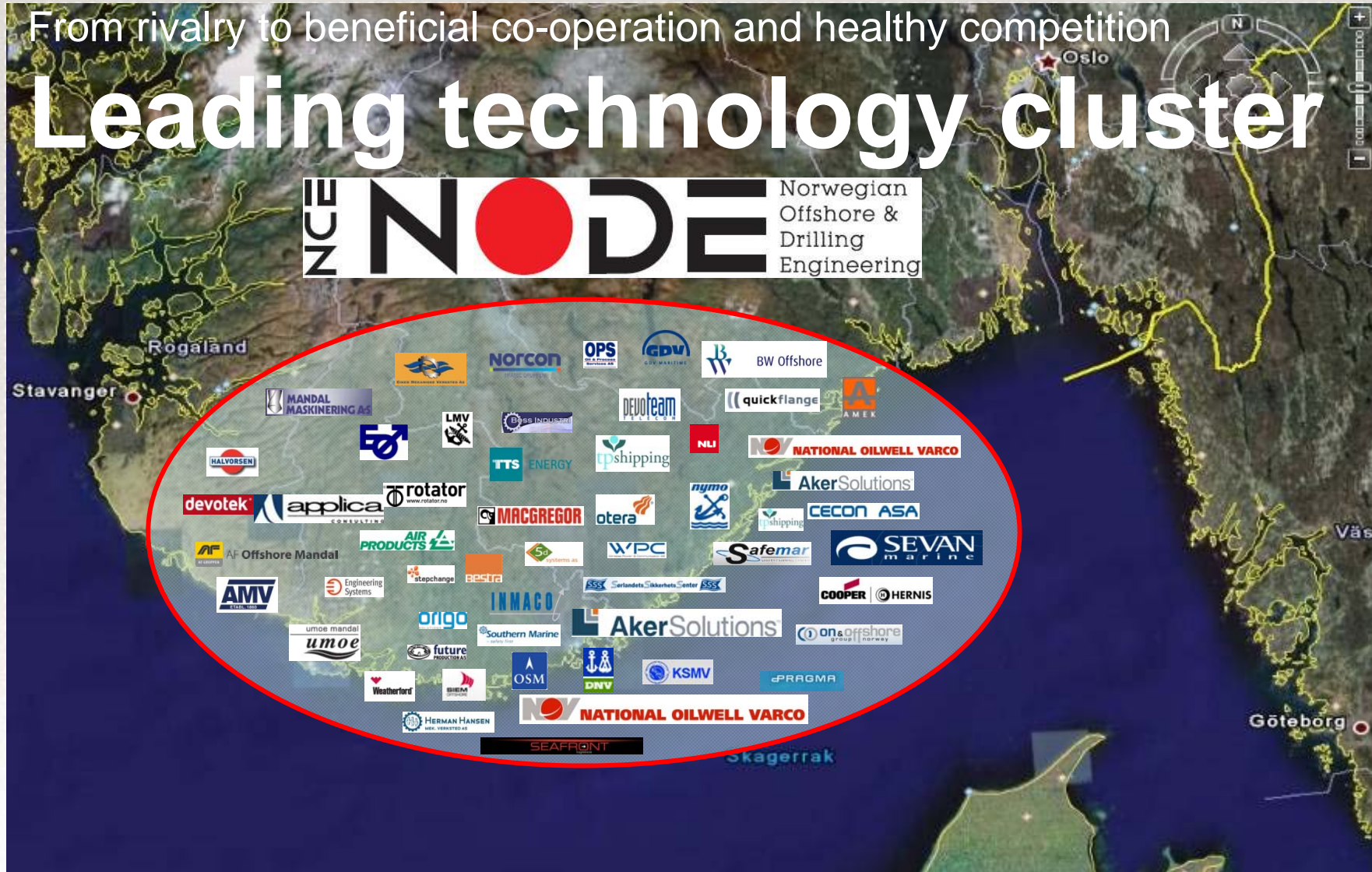
Agenda

1. **Establishing a Cluster Organisation** - main reasons
2. **The NODE Foresight Programmes** - using foresight as a tool in cluster development
3. **NODE Future Programme 2020** - building a global knowledge hub

From rivalry to beneficial co-operation and healthy competition

Leading technology cluster

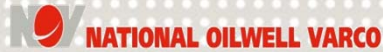
NORWEGIAN
NODE Norwegian
Offshore &
Drilling
Engineering



Basic facts

- Southern Norway participated in the great adventure in the North Sea from the beginning of the 1970's
- NODE companies were established in keeping with the region's long industrial and shipping tradition
- Mechanical competence at different mechanical workshops was crucial in the initial phase
- Today, Southern Norway is a leading region when it comes to mechatronic products and systems
- NODE consists of 53 companies
- Approximately 7,600 employees (31.12.2010)
- NODE companies are world-leading companies in four markets:

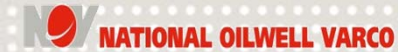
World-class technology



Drilling solutions



Active heave compensated cranes



Offshore on- and off-loading, mooring and anchoring



Complete platforms



PART 1:

Establishing a Cluster Organisation

Why build a cluster organisation?

- Industry had developed world-class technology on its own
- **Why “build” a cluster organisation?**
- In 2004, when we started to examine possibilities for establishing an organisation for cluster development, we had at least three reasons:

Reason 1: Lack of recognition

- No recognition of the industry's importance in Norway
- ***“We are more well known in Houston as being world leading than in Norway.”***
Roald Amundsen, CEO, Aker MH

Reason 2: Lack of collaboration

- No regional co-operation between companies and academia and the public
- **Because of the competition - they had no tradition of co-operation:**
- **They did not meet or speak together. The companies were almost unknown in the region**

Reason 3: Maintaining the industry's leading position

- Need for facilitating activities that strengthen the oil and gas industry's position in the region in a long-term perspective

The ongoing vision was created in 2005:

NODE assists in assuring that the oil and gas industry in Southern Norway will maintain its globally leading position regardless of outside competition

PART 2:

The NODE Foresight Programmes

Building a cluster organisation

- **Important activities in 2005:**
 - Steering committee established, comprising top leaders from the biggest NODE companies
 - Secretariat established
 - Developed a vision for NODE
 - HiA/Technology Committee
 - Network Committee
 - Resolution passed in steering committee that goal was to become an NCE
 - NODE ARENA application developed

The founding of NODE

- **The NODE project took shape with the launch of three projects early in 2006, laying the foundation for cluster development:**
 - **NODE ARENA Programme** - regional and national recognition and support
 - **NODE ART** - establishing a research programme
 - **NODE Foresight** - establishing a cluster building programme

The ARENA period (2006-2009)

- ARENA is a national programme for long-term development of regional business clusters. The programme offers both advisory and financial support, and runs for three years.
- Financial support - important, but more important impact:
- Interaction with the innovation policy agencies (Innovation Norway, Research Council of Norway, the Industrial Development Corporation of Norway) in a completely different context

The ARENA logo consists of the word "arena" in a lowercase, rounded, pink font, centered within a white rectangular box with a light gray gradient background.

NODE ART: Establishing a research programme

- R&D project - total budget: Euro 4.4 million
- Co-operation between National Oilwell Varco and Aker Solutions, the two locomotives in the cluster - crucial in Michael Porter's cluster theory from the 1990s
- Important for establishing formal co-operation with the University in Agder
- 3 PhD
- The two leading companies in the cluster successfully addressed shared technology challenges

NODE Foresight: Establishing a cluster building programme

- Strengthen collaboration within the cluster itself as well as its ties with other companies, academic institutions and the public sector
- 40-50 core participants. More than 90 persons have attended one or more workshops
- Develop future cluster programmes, and strategy for the Arena Programme
- Develop and maintain the strategic skills of cluster managers
- Total of 12 workshops divided into three programmes

Collaboration values

Cluster strategy

Binding cooperation

New cluster projects

National visibility

Partners:

Foresight in the 2000's

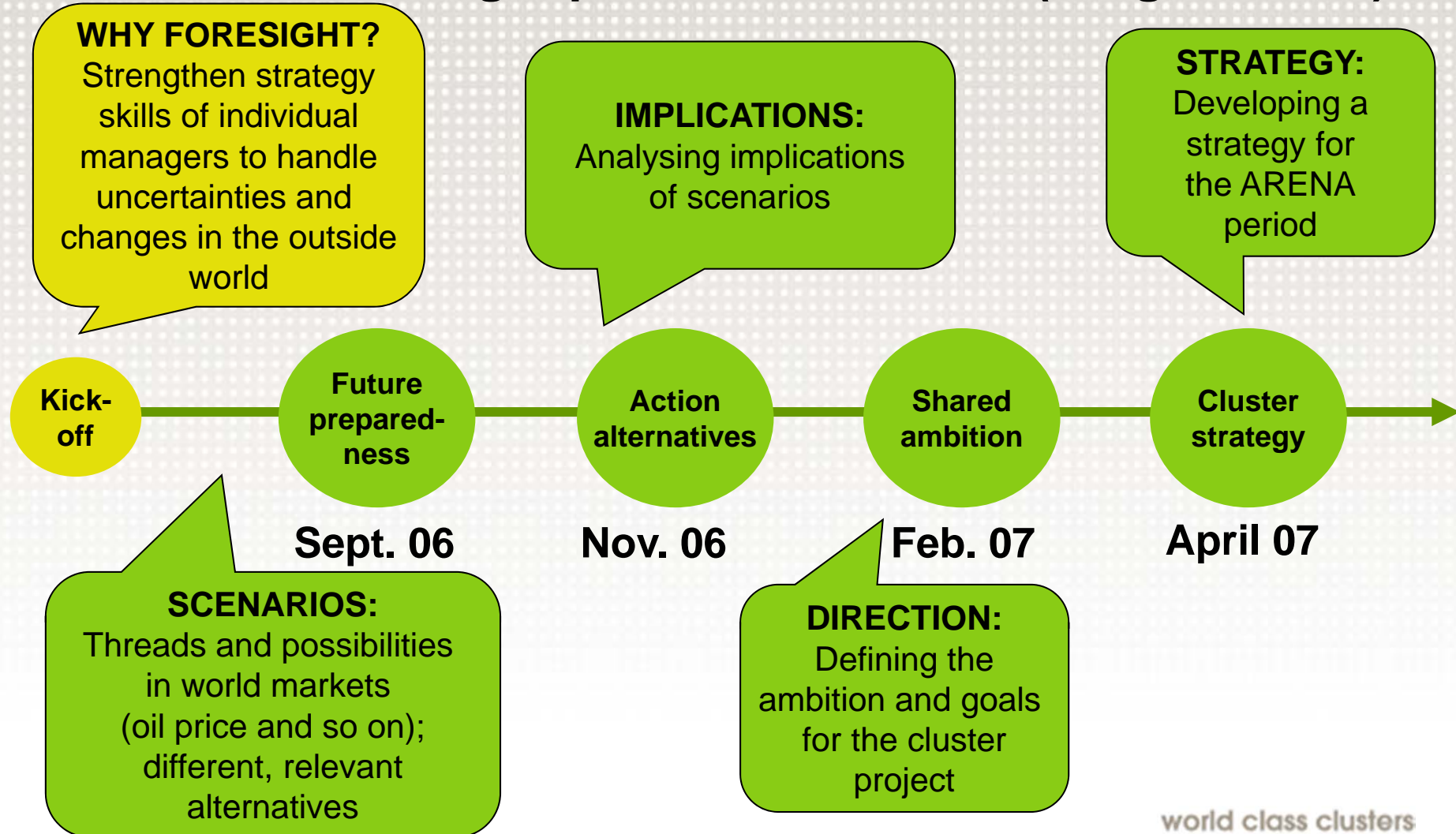
- In the European Union, Foresight has been used as a tool in regional development in the 1990's and 2000's. Some main characteristics:
 - Participating processes involving many stakeholders from the region (triple helix)
 - Used to rejuvenate regions whose development lags behind the times
 - Big programmes initiated by the Governments
 - Focus on building a shared vision
 - Focus on long-term development
 - The Norwegian Research Council adopted this thinking in Norway



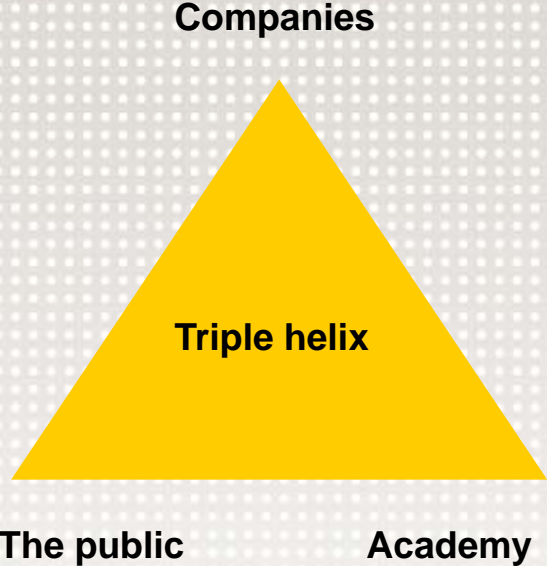
Designing Foresight as a concept for cluster development

- Foresight had not been used in clusters until 2006
- We started to design a programme on how to use Foresight in connection with developing a cluster culture
- Some differences from the EU:
 - Cyclical industry - tremendous growth: NOK 5 billion (2005), NOK 16 billion (2006). Today NOK 40 billion (it is possible to combine long-term thinking with heavy workloads in the companies)
 - The programme was designed for the companies in the cluster
 - A leader programme - focusing on scenarios for developing strategy
 - More focus on scenarios and strategy - in fact, this was the first cluster strategy developed at least in Norway. EU?

The NODE Foresight process 2006-2007 (Programme 1)



Why did Foresight become a success in NODE?



Engagement!

Some success factors

- Working in triple helix
 - The public and academy participated in the process
 - Mixed groups (small and big companies, triple helix and so forth)
- Working together in groups solving concrete tasks
 - Arena where we can share thoughts and be creative together
 - Arena where we can challenge each other
 - Arena where “crazy” ideas are allowed
 - Arena where we trust each other
- Bridging the gap
 - Two-day workshops - the evening is important
 - Informal discussions and business meeting
 - Having fun
 - Getting to know each other - being friends

Some success factors (contd.)

- Prepared processes and documentation of workshop results
 - Important to address actual and important issues (being relevant for the companies)
 - Meetings with the Foresight planning group (key participants)
 - It is important for the cluster organisation to set aside enough time for planning
 - Workshop report
 - Key proposals and project suggestions from the process were reviewed by the NODE steering committee

Three programmes in three years

**NODE FORESIGHT
2006-2007**

**NODE FORESIGHT
THINK TANK
2007-2008**

**NODE FORESIGHT
GLOBAL WATCH
2008-2009**

- Node Foresight, originally only one programme
- The participants themselves (triple helix) wanted to continue using Foresight as a cluster developing tool - and a tool for developing the region. Foresight became a regional tool!
- Some important effects of Foresight:

Foresight and the companies

- Meaningful interaction between the companies in NODE and between the NODE companies (cluster) and actors in the region - this was new
- Created an arena where competing companies can talk with each other
- Greater awareness of why the companies wanted to use NODE as a cluster organisation
- Broke several patterns (mental models):
 - the idea the competing companies not could co-operate together
 - the idea that sub-contractors only were a brick in the wall - now they participated at the same table with companies with whom they did not communicate in the past, and discussed issues that were important for NODE and the industry's future
 - greater awareness of the industry chain and the importance of the sub-contractors

Foresight and the companies

- Better understanding of how the public works and the roles they play
- We started to concern ourselves with the content in the university curricula, not only that it was important to upgrade Høgskolen i Agder to University of Agder
- Shared understanding of how we are different (companies, the public and academy)

Foresight and the public and academy

- Greater awareness of the industry's importance in the region
- They understood the importance of focusing on mechatronics at the university (some years ago it had “nearly” vanished from the university's study programmes)
- The public has obtained a relationship with a great and future oriented industry that will be in the region for many years to come (some years ago the public wasn't aware that NODE companies had such importance)
- It is crucial that especially participants from the public represent the top managers' team and can talk on behalf of the chief executive

The companies and the region

- The companies - aware of the importance of the region
 - Addresses the region's challenges and possibilities
 - In position to take responsibility of the region's development
- New understanding - the companies' further growth is dependent of interaction with the public and the academy

Foresight in NODE - summary

- Bridging the gap...
 - ...between the industry, the public and academy
 - Creating a shared tool for developing the region
- Made us a more mature cluster
 - We use Foresight to make the cluster more robust
 - Greater trust between the participants in the cluster
 - Defining the cluster project (content)
 - Shared goals and strategy
 - Project co-operation
- Prepared us for the next level
 - The NCE committee valued the use of Foresight

PART 3:

NODE Future Programme 2020

From ARENA to NCE (Norwegian Centre of Expertise) in 2010

- A huge step: From a regional project (ARENA) to a global project (NCE)
- Professor Torger Reve was the main architect in describing the content for NODE as a global cluster
- NODE can take a global position through becoming a GLOBAL KNOWLEDGE HUB
- According to Professor Reve, only two clusters in Norway have this dimension - NCE Maritime and NCE NODE



***Professor Torger Reve,
BI - Norwegian Business School***

NODE Fremtidsprogram 2020: Long-term future programme for Sørlandet (Southern Norway)

- Long process involving NODE top managers and regional academic institutions and public officials whose main focus has been on determining how the region should utilise the opportunities inherent in the fact that NODE has become an NCE
- Outlines NODE's ambitions and main objectives based on 3-year and 10-year perspectives
- Paves the way for growth and value creation within the cluster through innovation/research and development

Innovation

R & D

**NCE
strategy**

Growth

Finance

**International
focus**

NODE in 3 years

NODE will continue working to strengthen southern Norway's position as a world leading energy and technology region. Based on a 3-year perspective, NODE will maintain a major focus on strengthening and developing the expertise found within the cluster

NODE will remain a world leading cluster in the oil and gas industry as well as receive the first new orders within new niches in new markets

**World-class
technology and
expertise**

**An environmentally
robust cluster**

**Human
and financial
capital**

NODE in 10 years

NODE will remain a world leading energy and technology cluster while simultaneously assuming leading positions within new niches in new markets

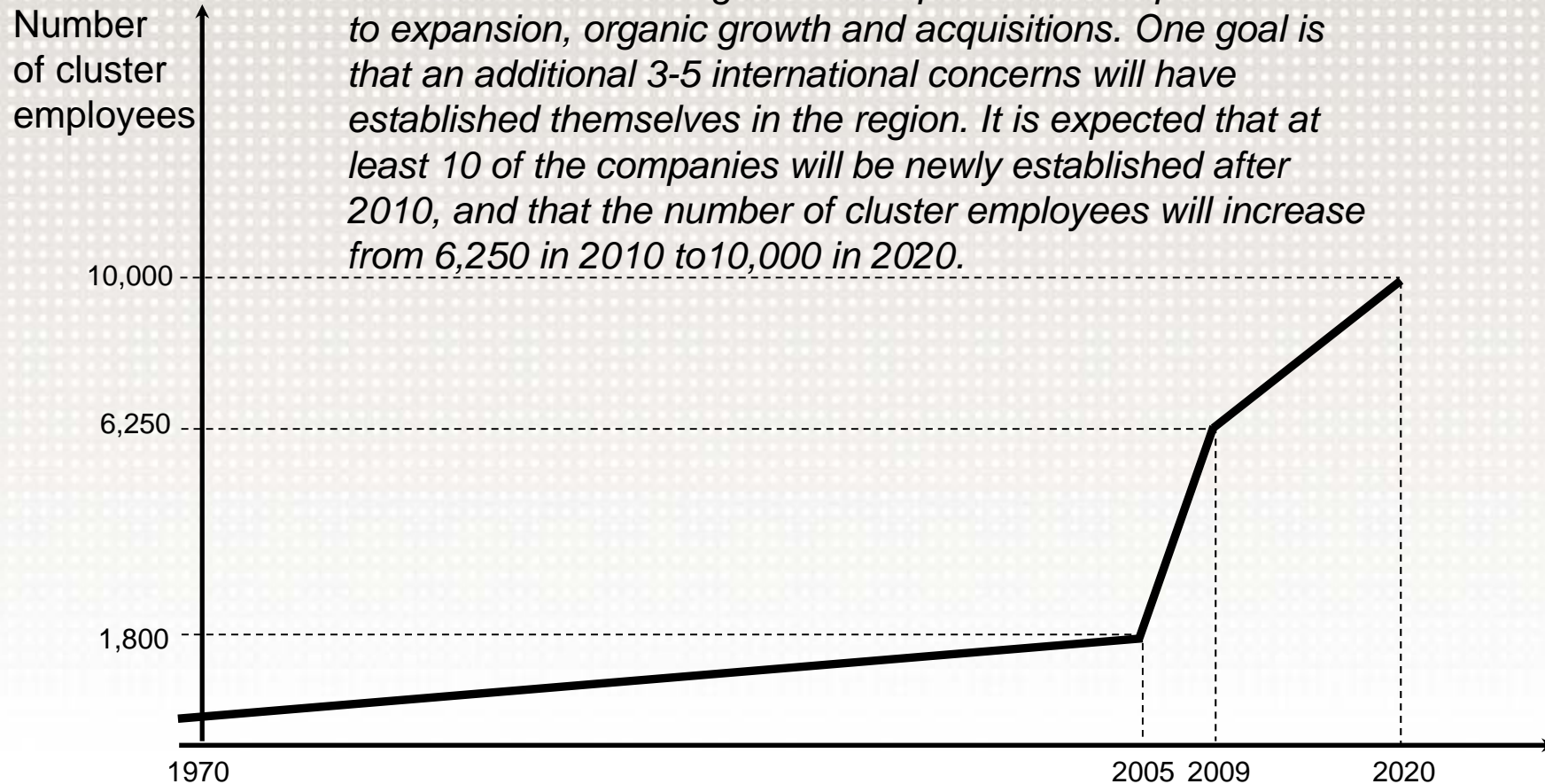
**World-class
technology and
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**Human and financial
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Where will the cluster be in 10 years?

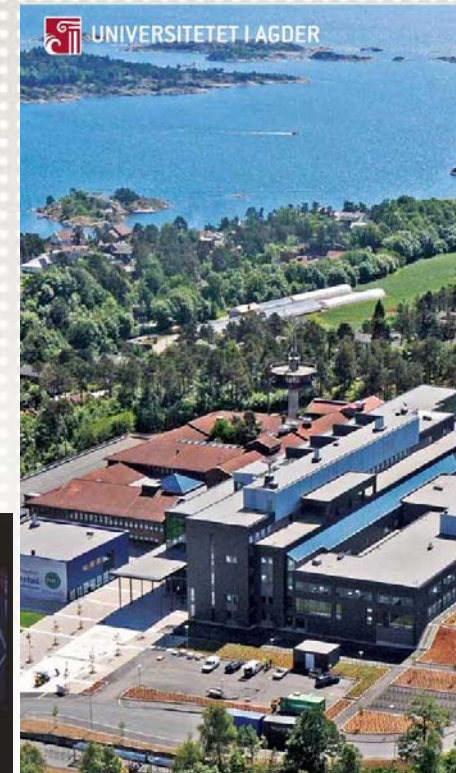
The cluster's size will grow to comprise 100 companies due to expansion, organic growth and acquisitions. One goal is that an additional 3-5 international concerns will have established themselves in the region. It is expected that at least 10 of the companies will be newly established after 2010, and that the number of cluster employees will increase from 6,250 in 2010 to 10,000 in 2020.



- Develop knowledge in the region in co-operation with world class Innovation Centres and Universities

NODE Mechatronics

**Sørlandet as a world leading
region in mechatronics**



Thank you for your attention!

www.ncenode.no