

MSc Lars Mjøs

Manager Osterøy Manufacturing Industry
Association

Project manager the regional (Industrial) Robotics
Network

Osterøy Manufacturing Industry Association

- 40 members
- About 15 members are manufacturing companies using CNC machines/ robots
- Strategic business plan for the Bergen region: further develop the CNC and robotics cluster within the region

INDUSTRIKART OSTERØY

Industrial Map/Industrielle Karte - OSTERØY INDUSTRILAG

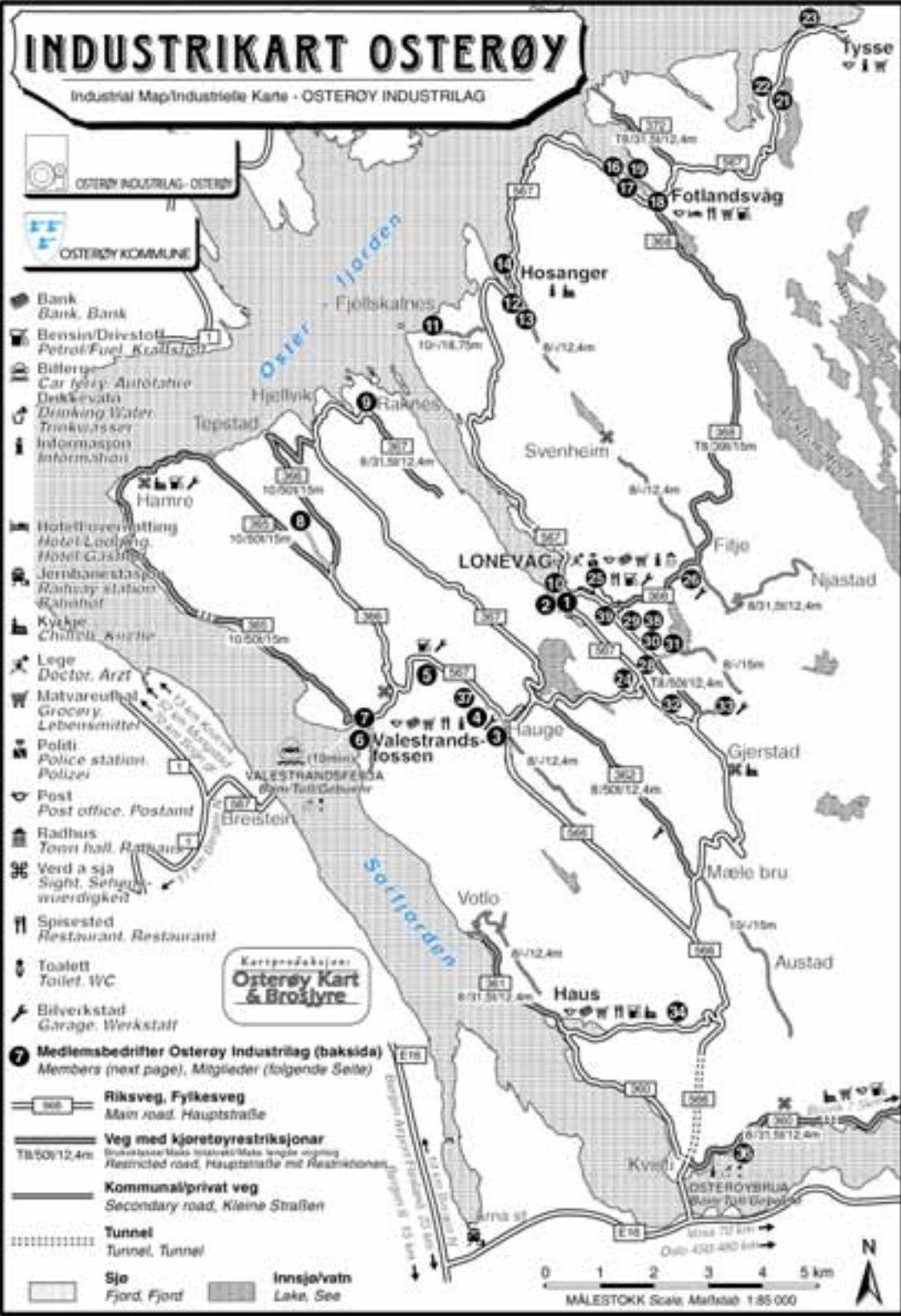


- Bank, Bank
- Bensin/Drivstoff, Petrol/Fuel, Kraftstoff
- Bilerferje, Automobile
- Drikkevann, Drinking Water, Trinkwasser
- Informasjon, Information
- Hotell/overnatting, Hotel/Lodging, Hotel/Gästgäst
- Jernbanestasjon, Railway station, Bahnhof
- Kyrkje, Church, Kirche
- Lege, Doctor, Arzt
- Matvarebutikk, Grocery, Lebensmittel
- Polit, Police station, Polizei
- Post, Post office, Postamt
- Radhus, Town hall, Rathaus
- Verd å sjå, Sight, Sehenswürdigkeit
- Spisested, Restaurant, Restaurant
- Toalett, Toilet, WC
- Bilverkstad, Garage, Werkstatt

Kartproduksjon:
Osterøy Kart & Broflytve

7 Medlemsbedrifter Osterøy Industrielag (baksida)
Members (next page), Mitglieder (folgende Seite)

- Riksveg, Fylkesveg**
Main road, Hauptstraße
- Veg med kjøretøyrestriksjoner**
TB 50/12,4m
Restricted road, Hauptstraße mit Restriktionen
- Kommunal/privat veg**
Secondary road, Kleine Straßen
- Tunnel**
Tunnel, Tunnel
- Sjø** Fjord, Fjord **Innsjø/vann** Lake, See



0 1 2 3 4 5 km
MALESTOKK Scale Maßstab 1:85 000

The Robotics Network members

Jakta Metall AS



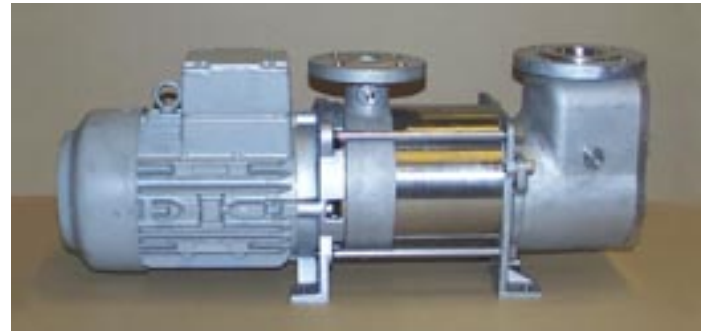
K Lerøy Metallindustri AS

- 35 employees
- Fittings (furniture)
- Specialised in small and accurate components
- Supplier to Norwegian manufacturing companies
- Largest customer; Ekornes Stressless



Mjø̂s Metallvarefabrikk AS

- 49 employees
- Metal foundry
- Advanced CNC machines
- Vacuum toilet pumps for Jets AS
- Supplier to Norwegian manufacturing companies, Rolls Royce Marine





Tysse Mek Verksted AS

- 65 employees
- Car trailers
- CNC, CAD/CAM, robots







OMADA

Astro 100 NT
RDS1030









Gunnebo-Anja Industrier AS

- 65 employees
- Blacksmith/ forging
- Shackles, riggingscrews, forgings
- Started to use robots in the forge/smithy



GUNNEBO
LIFTING







60 employees
Safety equipment for
roofs
Garage doors and
fittings
Develop their own
products
Robots



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Permanent organisation from 01.01.2009:

OSTERØY VIDAREGÅANDE SKULE
Kompetansesenteret for
CNCogrobot











Objective: 15 modern education stations

CNC machines and robots/ robot cells.

2 classes/ groups simultaneously with 2 pupils per station.

External customers.



Leonardo da Vinci 2009 call

CNC and Robotics Partnerships CaRPs

11 Partners from Germany, Lithuania, Norway, Slovenia, Sweden

Lack of ...

- Lack of CNC- and robotics-workers
- Lack of CNC educational service
- Very few of the pupils from the mechanical education are working within manufacturing industry
- Lack of modern machines and equipment in the school workshop

CaRPs Objectives

- O1: Exchange practical experience in how to cooperate and develop **cooperation between vocational schools and regional enterprises**.
- O2: Exchange practical experience in how to **develop and finance regional CNC and robotics centres** as part of vocational education in order to serve young people and provide life long learning to meet the regional needs within this field.

CaRPs Objectives

- O3: Develop at least 4 **teaching modules/ lessons**, 2 within the field of CNC and 2 within the field of robotics, and exchange practical experience.
- O4: **Prepare Leonardo da Vinci mobility activities** (for teachers, trainers and students) between the regions.

CaRPs Objectives

O5: Be better skilled to **practise a common foreign language; English**, with special focus on terminology within the fields of CNC and robotics.

Project website:

www.rup.no

search

“CaRPs”

www.detnyejenteyrket.no

Robotic Network

Pre studies and
study visits
granted by Innovation Norway

Visiting each other
Sweden (www.svia.se)
Denmark (www.robotcluster.dk)











Innovation Norway Network Programme

Our application for a project refused.
We wanted networking to increase skills.
To be granted; the networking companies have to
make business together, not only better business
caused by networking.

The Research Council of Norway

Regional representative

Mr Atle Markussen

Recommended and made contact with

The VRI competence brokering,

Bergen University Collage

(We also know BUC from several co-operations
within our region)

SINTEF

The SINTEF Group is the largest independent research organization in Scandinavia. Every year, SINTEF supports the development of 2000 or so Norwegian and overseas companies via our research and development activity.

SINTEF

SINTEF is co-operating with
Norwegian University of Science and Technology,
NTNU, Trondheim
Department of
Production and Quality Engineering
Professor Terje K Lien

SINTEF/ NTNU

We knew from articles and other contacts that SINTEF/ NTNU the last 2-3 was much better skilled within industrial robotics

VRI, Bergen University Collage

VRI contact person
Atle Våge

Recommended to make contact with SINTEF/
NTNU
and to prepare an application

VRI application

We gave Atle Våge some Robotics Network reports (and the Network Programme application) and some information about the applicant/
Robotics Network applicant organisation; Mjøs Metallvarerabrikk AS

Atle Våge made an application proposal which we discussed and within a short time, we applied Innovation Norway in December 2010

VRI grant letter

Letter from Innovation Norway dated 15.3.2011
Meeting in the Robotics Network broad 29.4.2011
Started co-operating with SINTEF

Gap analysing

Main object:

Analyse the level of competence within the network and national to make proposals to fill the gap
(application(s) for The Research Council of Norway or other applications)

Gap analysing

Projects:

- 1: Analyse local industrial robotics competence
- 2: Analyse national industrial robotics competence; state of the art
- 3: Proposals to fill the gap