

CURRICULUM VITAE (CV)

for

Thor Hukkelås

PERSONAL INFORMATION

Place & date of birth Orkdal, June 25, 1953
Nationality Norwegian
Languages Norwegian mother tongue, English (fluent), (to some extent: German and French)
Family status Married to Ellen, 3 daughters
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EDUCATION

Master of Science (Sivilingeniør) degree from the Department of Engineering Cybernetics at the Norwegian University of Science and Technology (NTNU) in Trondheim 1976.

KEYWORDS

Passionate advocate for applying “The Cybernetic Method” and Human-Centred Design in the development of Cyber-Physical systems.
Passion for the ocean and all what’s in there.

Ocean Space solutions, Applied Cybernetics, Autonomy, Aquaculture, Dynamic Positioning, Simulators, SW development, Systems Engineering, Business Development.



JOB EXPERIENCE

Company **NTNU - Norwegian University of Science and Technology**

Period August 2020 - Present

Title Adjunct Associate Professor / Universitetslektor II
Department of Engineering Cybernetics,
Norwegian University of Science and Technology (NTNU)

Tasks: • Lecturing: Human-Machine/Automation Interaction in Cyber-Physical Systems

Company **Kongsberg Maritime AS**

Period January 2015 - Present

Title Director Business Development Aquaculture, Sensors & Robotics
Director Aquaculture Research & Development, Subsea Division.

Tasks: • Business and Concept Development for open ocean fish farming in close co-operation with SalMar, NTNU, SINTEF Ocean and several start-ups.
• Program Manager for a 3-year Technology Program for “Monitoring & Decision Support for sustainable fish farming” in co-operation with SalMar and its subsidiary Ocean Farming AS in conjunction with the development of the world’s first “digital” fish farm Ocean Farm 1.
• Given several presentations with titles like: “How to maintain the human in the loop”, “Aquaculture and Industry 4.0”.

Company **Kongsberg Maritime AS**

Period August 2010 – January 2015

Title Principal Engineer Marine Operations. Business Development dept.

Tasks: • Project Manager of SITUMAR (Situation Awareness & Decision Support for demanding

marine operations, a 3-year project supported by the Research Council of Norway.

- Focus on Human Centred Development/ Design Thinking development methodology and how to design for optimal Situation Awareness and Human-Machine Interaction in Cyber-Physical systems.
- Contributed to the strategic direction concerning development of autonomous ships in Kongsberg Maritime AS.
- Contributed to the establishment of the test ranges for autonomous ships in Trondheimsfjorden and outside Horten.
- Concept development of a new integrated solution for anchor handling based on the K-Master operator station.

Company	<i>Kongsberg Maritime AS</i>
Period	January 2009 – August 2010
Title	Project Manager, DP & Nav Department, Innovation Department
Tasks:	<ul style="list-style-type: none">• Manager for the prototype phase of the K-Master, a new operator workstation for aft bridge of offshore vessels (see picture).• K-Master was nominated for the highest design award in Norway in 2010, “Hedersprisen for God Design” and has been a great success since market launch.• Development of KM’s Design Strategy & the development methodology of Human Centred Development

Company	<i>Kongsberg Seatex AS</i>
Period	April 2004 – December 2008
Title	Sales Manager, AIS Network Systems
Tasks:	<ul style="list-style-type: none">• Sales and marketing of AIS Infrastructure System• Manager for a joint R&D project between Seatex and (then called) Seaflex supported by the Norwegian Research Council.

Company	<i>SiMiCon as (Simulation, Modeling & Control, Norway)</i>
Period	January 1999 – December 2003
Title	Technical Director
Tasks:	<ul style="list-style-type: none">• Co-founder of the company. The main focus for this company was the development of novel concepts for Unmanned Aerial Vehicles (UAVs)• SiMiCon filed a Norwegian patent for a new rotary-wing Unmanned Aerial Vehicle (UAV) concept called SiMiCon Rotor Craft (SRC),• Worked out a feasibility study funded by the Norwegian Ministry of Defence in close co-operation with the Norwegian Defence Research Institute (FFI).• Managed a project sponsored by the Norwegian Research Council called MATOL – Maritime Take Off and Landing aimed at developing systems for operating VTOL based UAVs from ships.

Company	<i>Norconsult Telematics, Saudi Arabia & Qatar</i>
Period	April 2000 – June 2002
Title	Team Leader / Project Manager / Systems Engineer
Tasks:	<ul style="list-style-type: none">• Team Leader for an Independent Verification & Validation multinational team of different subject matter experts working for the Ministry of Defence and Aviation (MODA) of the Kingdom of Saudi-Arabia, supporting the acquisition of a joint forces C4I System.• Preparation of Request for Proposal (RFP) documents,• Establishment of a large system for Bid Evaluation (2000 separate requirements) and leading several independent teams performing the detailed technical and economical evaluation,• Preparation of Request For Proposal (RFP) documents for an Air Operations Centre (AOC) for the Qatari Air Force

Company	<i>Simrad Norge AS, Kongsberg</i>
Period	June 1994 - September 1996

Title Product Group Manager, Integrated Systems, Naval & Ocean Science Division
Tasks: Systems Engineering and Marketing of Simrad products and integrated CCI systems for the Navy market. Integration of Dynamic Positioning systems, sonars and tactical systems. Examples:

- Bid manager for proposal to YS2000 Sonar Systems (Sweden)
- Bid manager, proposal for Mine Counter Measure (MCM) Command & Control system to Kværner Mandal. End-customer: Royal Thai Navy.
- Bid manager, project P304X, New Coastguard (Norway)
- Bid-manager, proposal for Integrated Bridge system to "New FPB Structure" (Norway)
- Responsible for pre-qualification of Simrad for project "New FPB Structure"

Company *TellMie as*

Period September 1996 – Present

Title Managing Director, Founder of the company with 100% of the shares.

Tasks: Consultancy services and development of specifications and software for Norwegian and International military material commands and companies. Specialties: Project Management, Bid Evaluation, Simulators and Trainers, C4I Systems, Acoustics (both hydro- and in-air), Rapid Prototyping of MMI etc.

- TellMie was the Norwegian partner in an European Defense Agency (EDA) project called MAVDEM – development of a hybrid mini UAV.
- Support to Kongsberg Defense & Aerospace (KDA) in conjunction with a proposal for Mine Counter-Measure System to Swedish and Finnish Navy
- Project Manager for Kongsberg Simrad. Project: "AIM Redundancy".
- Study for the Norwegian Defense Research Establishment (FFI): "Coastal Surveillance and civilian radars".
- Engaged by the Norwegian Defense Research Establishment (FFI) in a study to work out a concept for the use of Unmanned Aerial Vehicles (UAVs) in maritime operations.
- Assisting and Acting Project Manager for AIRMATCOMNOR. Project: Ground Controlled Intercept simulator and Air Operations Tactical Simulator
- Project Manager and Software development in a project aimed at making a prototype of an acoustic sensor that shall be able to detect snipers SNIPOS – Sniper Positioning System. Customer: Micromar and Royal Norwegian Army
- Development of Man Machine Interface specifications and delivery of software to be used for Navigation Information Displays for RNoN's Combat Boat 90N. Customer: Seatex, Norway.
- Simulation studies and motion analysis for Kværner Maritime in conjunction with the "SeaLaunch" project.
- Development of Man Machine Interface specifications and development of MMI SW Prototype for a new range of fishery- and military sonars. Customer: Simrad as, Norway.
- Engineering and specification of Integrated Bridge and Communication system for two refurbished Mine diver Vessels. Customer: Royal Norwegian Navy
- Assistance to Kongsberg Simrad in preparation of quotations for Dynamic Positioning systems for navy vessels.
- Training Needs Analysis and responsible for systems engineering and specifications for new Tactical Trainer and for a Helicopter Control Officer training simulator for NAVMATCOMNOR (Taktikkskolen, KNM-Tordenskjold).
- Project management assistance and development of technical specifications to AIRMATCOMNOR. Project: Ground Controlled Intercept simulator and Air Operations Tactical Simulator.
- Bid evaluation, assistance to NAVMATCOMNOR. Project: New Navigation and Ship Handling simulator.
- Assistance to Seatex, response to RFP for new Coast Guard Integrated Navigation System and Helicopter Landing Control System. Systems engineering and marketing of navigation system for Combat Boat 90 ("Stridsbåt 90").
- Assistance to Ericsson Radar, Halden. Proposal preparation in response to NAVMATCOMNOR project Upgrade of Coast Guard vessels.

Company **Micro Processor Systems (MPS) a/s**

Period Jan. 1987 - June 1994

Title Marketing and Business Development Manager, Technical Manager

Tasks: Was central in the building-up of the company from the early beginning of 1987 (we were 4 people in January 1987, and 14 in June 1991). Technical Marketing, Business Development and Systems Design, Software development for simulators and training systems for the armed forces. Main designer of the MPS simulators for active ASW sonars.

Marketing, sales, contract negotiations, system concepts and studies, proposals & offers for simulator and trainers to the armed forces. Examples:

- Project manager, NALLADS simulator (Norwegian Army Low Level Air Defense System). Combined radar, Robot 70 and Weapon Terminal trainer.
- Bid-manager for the IDA-simulator (torpedo/mine battery simulator)
- Responsible for the systems design, proposal and contract negotiations on the NALLADS air defense simulator (65 mill NOK),
- Project manager for sonar-/ASW-simulator to Sweden ('HUGIN')
- SW job leader Tactical Trainer to Sweden ('MIMER')
- SW job leader for Anti Submarine Warfare (ASW) trainer/simulator to the Royal Norwegian Navy. The simulator included three very advanced simulators for active ASW sonars including synthetic generation of the audio
- Bid-manager, proposal for "Dome-trainer" for Air Defense training. Customer: Royal Norwegian Navy (RNON)
- Worked out specifications for new display- system for Early warning air surveillance radars (SINDRE) for AIRMATCOMNOR. Customer: Royal Norwegian Air Force (RNOAF)
- Study, recording- and replay system for NADGE (NATO Air Defense Ground Environment.
- Bid manager, simulator for active helicopter dipping sonar (Sweden), Army Staff trainer to Sweden, military ATC trainer, Sweden, Air Defense Trainer, Sweden
- Bid-manager, "Rear Cabin" simulator for SeaKing helicopters
- Worked out specifications for onboard simulator for 9LV200 ship-based air defense systems (Celsius, Sweden)

Company **Kongsberg Albatross AS, Kongsberg**

Period Aug.1982 - Jan 1987

Title Senior Engineer, Research & Development

Tasks: SW- and systems design.

- System manager and SW job leader for development of a Triple Redundant Dynamic Positioning (DP)-system (ADP 703).
- System manager, new generation integrated survey systems
- Involved in study for new Norwegian mine hunters
- Customer support, technical marketing and systems installation of Dynamic Positioning (DP) systems for offshore vessels

Company **Kongsberg Våpenfabrikk AS, Kongsberg**

Period April 1979 - Aug. 1982

Title Project Engineer

Tasks: Systems- and software design.

- Software development for the Air Defense system onboard the NORDKAPP class coastguard vessels (AS&GC of NAVKIS), including target tracking, Fire Control Radar, systems integration and gun ballistics
- Feasibility studies for future air defense systems for the Norwegian Army and the Norwegian Air Force

Company **Norwegian University of Technology and Science (NTNU), Trondheim**

Period Jan. 1977 - April 1979

Title Scientific Assistant

Tasks: • Assistant for late professor J.G.Balchen. Responsible for lab. and assisting students in Control theory

Company	Royal Norwegian Air Force
Period	Jan. 1977 - April 1978
Title	Radar Ops.room Assistant
Tasks:	<ul style="list-style-type: none">• Operation of air surveillance radars.