ARTEMIS JOINT UNDERTAKING

The public private partnership for R&D in the field of Artemis

SHIELD new

Josef Noll (CTO), Movation AS

Per Lasse Hauglum (CEO), Noom

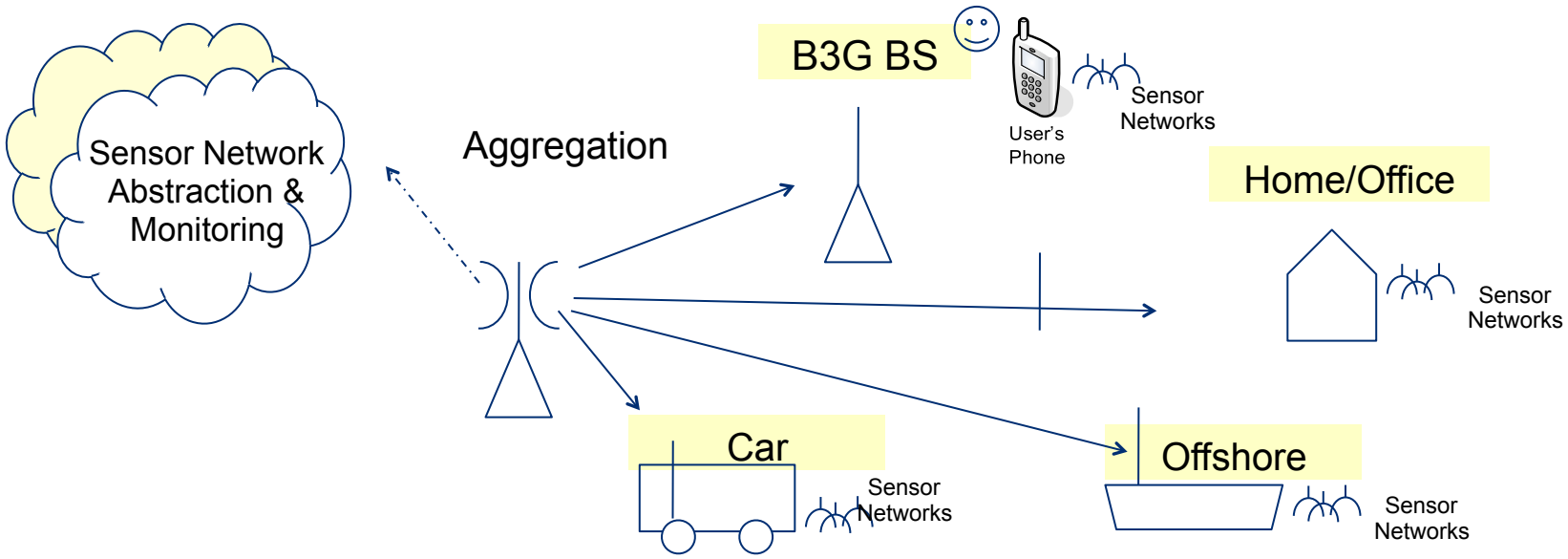
Robert Engels (CEO), ESIS

ARTEMIS Call 2010 – SP269317

including presentation of use-case partners:
National Rail Administration of Norway (JBV)
Telenor Objects

Center for Wireless Innovation

A facilitator for industry and seven research institutions to form strategic partnerships in wireless R&D



Høgskolen i Telemark
NTNU
UNIVERSITETET I AGDER
UNIVERSITETET I OSLO
HØGSKOLEN I BERGEN
UNIK UNIVERSITETSSTUDIENE PÅ KJELLER
Universitetet i Stavanger

Technical competence

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- Movation: Industrial cluster, including Telenor, Opera, Statoil, Nets, Simula, ...
- Scandinavian Mobile Technology (Noom): Service provider for “Call-a-device”
- ESIS: Semantic Integration - Socialtainment
- Use-case partners (associated)
  - Norwegian Rail Administration (JBV):
    - Including sensors in business process
  - Telenor Objects:
    - Application development, Semantic extension
    - Collaboration on standardisation
- Norwegian Defense Research (FFI) - *interest*
  - Identity management for the IoT (incl. cryptography)
- SIMLINK - WLAN/NFC SIM - *interest*
  - Trusted mobile platform (SIM) for M2M applications

nSHIELD Team from Norway

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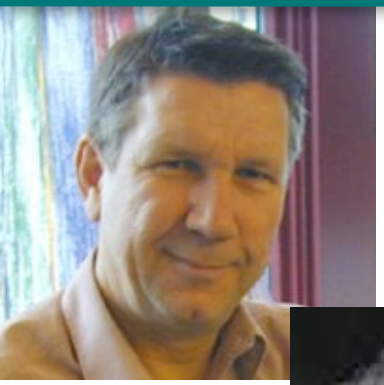

- Per Lasse Hauglum
  - Owner CEO - Scandinavian Mobile Technology
  - Internet Service Pioneer: Call-a-name, key return
  - device communication through mobile systems

Robert Engels

  - Owner ESIS, Prof. Vestlandsforsk
  - Semantics in Business, “SocialTainment”

- Josef Noll
  - Chief Technologist, Movation AS
  - Prof. at University of Oslo
  - project leader/initiator Mobile & Wireless

nSHIELD - industrial outcome (focus: Norway)

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- sensor enhanced processes and information systems
- embedded system implementations on industrial sensor platform
- home/industrial sensors which you can communicate with (call, sms)
- semantic attribute-based access
- controlling and communication platform

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Scandinavian Mobile technology

(NOOM)

Scandinavian Mobile Tec

- **The new generation of mobile subscribers will not use numbers for calls, but phone domain names and nicknames**

Ref.: Dr. Mockapetris, the inventor of Internet Domain Names

- **Moving Internet Domains to the Mobile world**
- **Product- and Service Name can be called**
- **Keywords can be called**
- **All unique Identities and Strings may be called**
- **Option: Toll free (green calls) for the users**

Noom - replacing numbers by names

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ESIS

Applying the Semantic Web

ESIS NORGE

Company presentation - Movation

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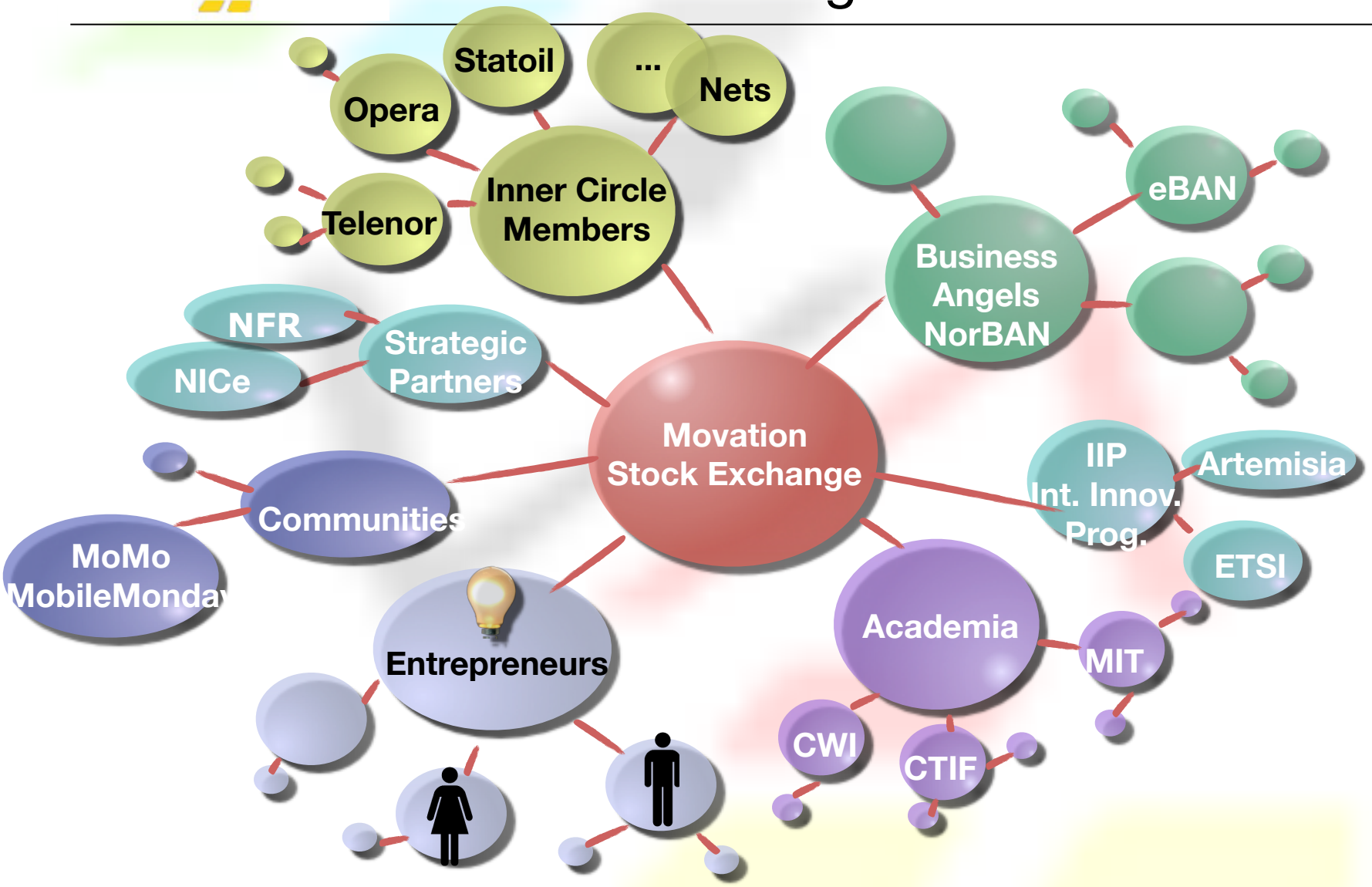
MOVATION

An open, user-driven innovation arena to connect innovators with competent capital, smart competence and challenging customers

Innovation through Collaboration



Providing the infrastructure for open collaboration

Inner Circle Partners

The Solution!

An open, user-driven innovation arena to connect innovators with competent capital, smart competence and challenging customers

Welcome to the leading open Innovation Stock Exchange in the Nordics

Innovation by design - Making your ideas smarter, your growth faster and your success larger!

powered by MOVATION

For Entrepreneurs

- present your idea to investors
- get help from experts
- find competent capital

For Investors

- the best ideas and companies in search for funding
- structured process with expert evaluation
- platform for collaboration with other investors

Innovation Idea	Score	Invested	Company value	Comm. voting	Growth	added
Induct Software AS - "The Open Innovation Company"	624	kr 150 000,00	Not set yet.	55	85	May 2008
Movation - Innovation Stock Market Mc²	596	kr 240 000,00	2 MNOK	43		
Broadband Butler	694	kr 70 000,00	Not set yet.	35		
SNAPCars	813	kr 10 000,00	Not set yet.	9		
Noom, navn som kan ringes	724	kr 110 000,00	Not set yet.	6		

.... more innovations

For Partners

- the best ideas and companies in search for funding
- see trends before they become obvious
- be visible in an exciting network

For Members

- vote for your favourites
- invest your Movation Dalere
- win stocks of vinners

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National Rail Authority

Jernbaneverket (JBV)

Business Modelling in JBV

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source:
Arne Dybdahl, JBV

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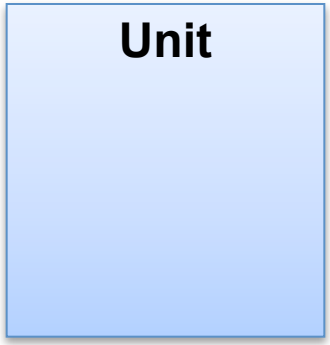

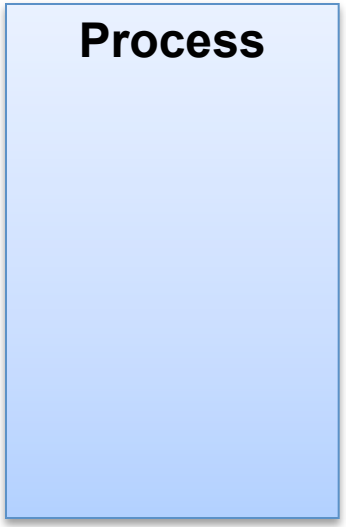

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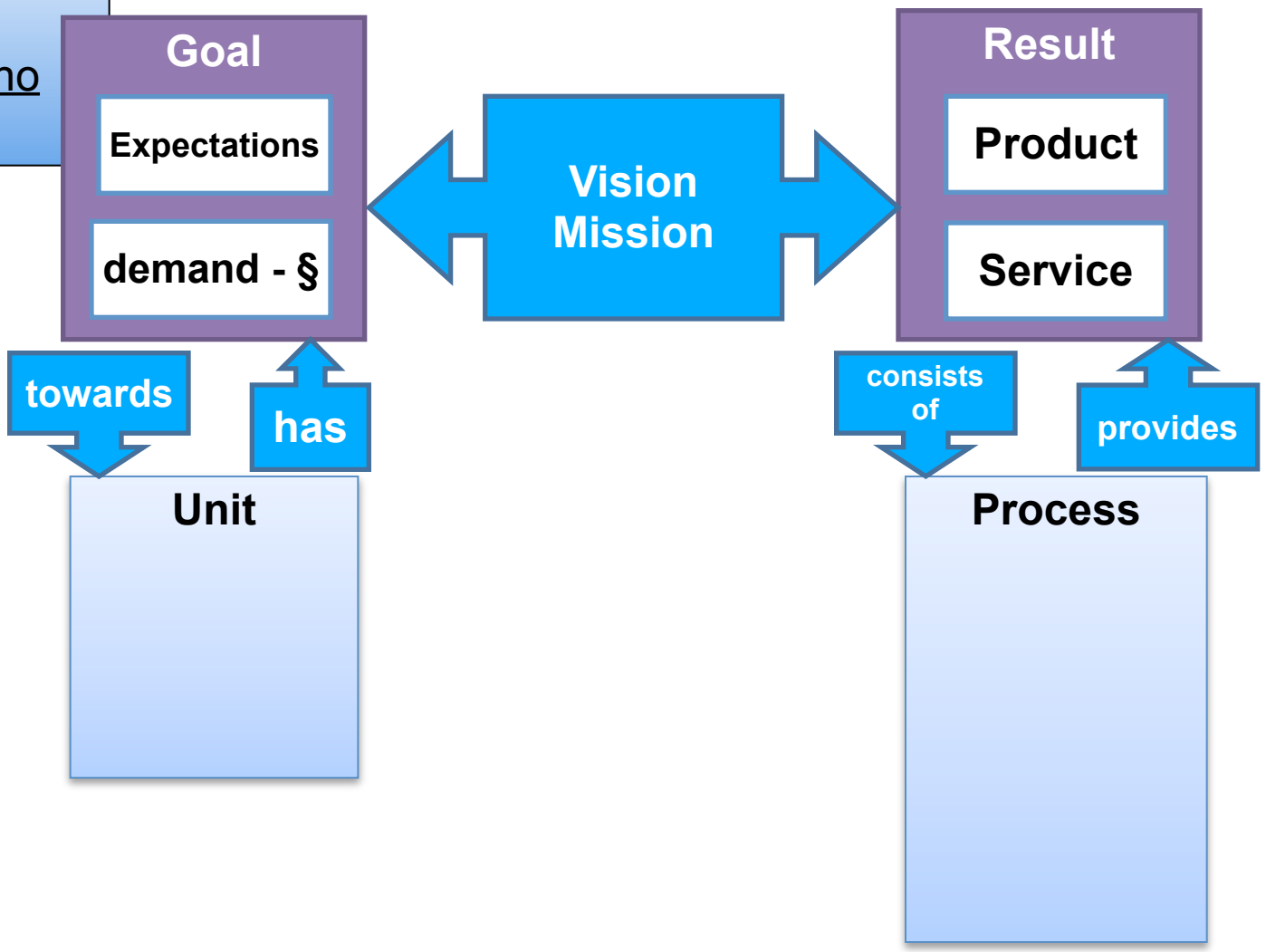

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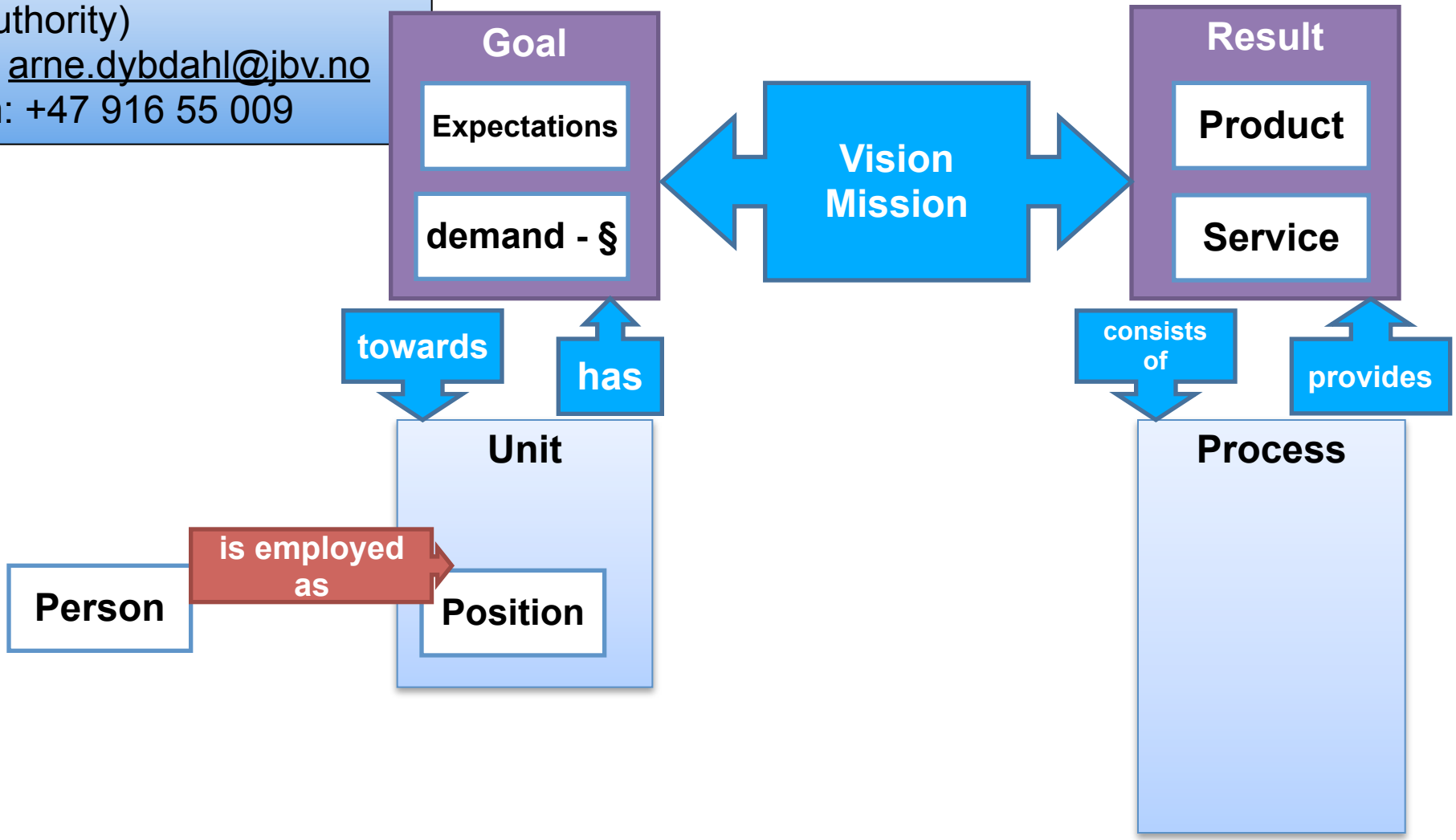

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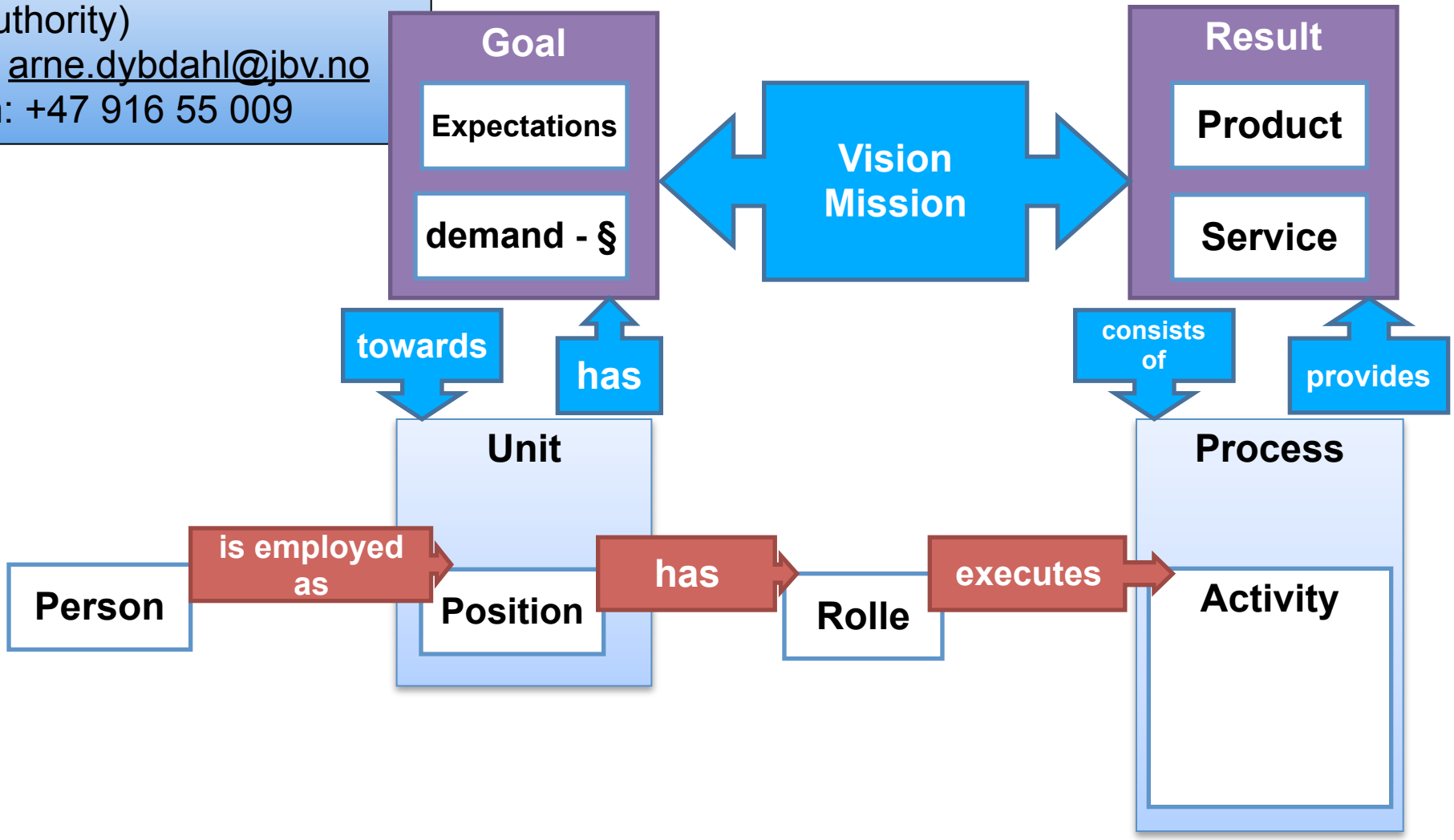

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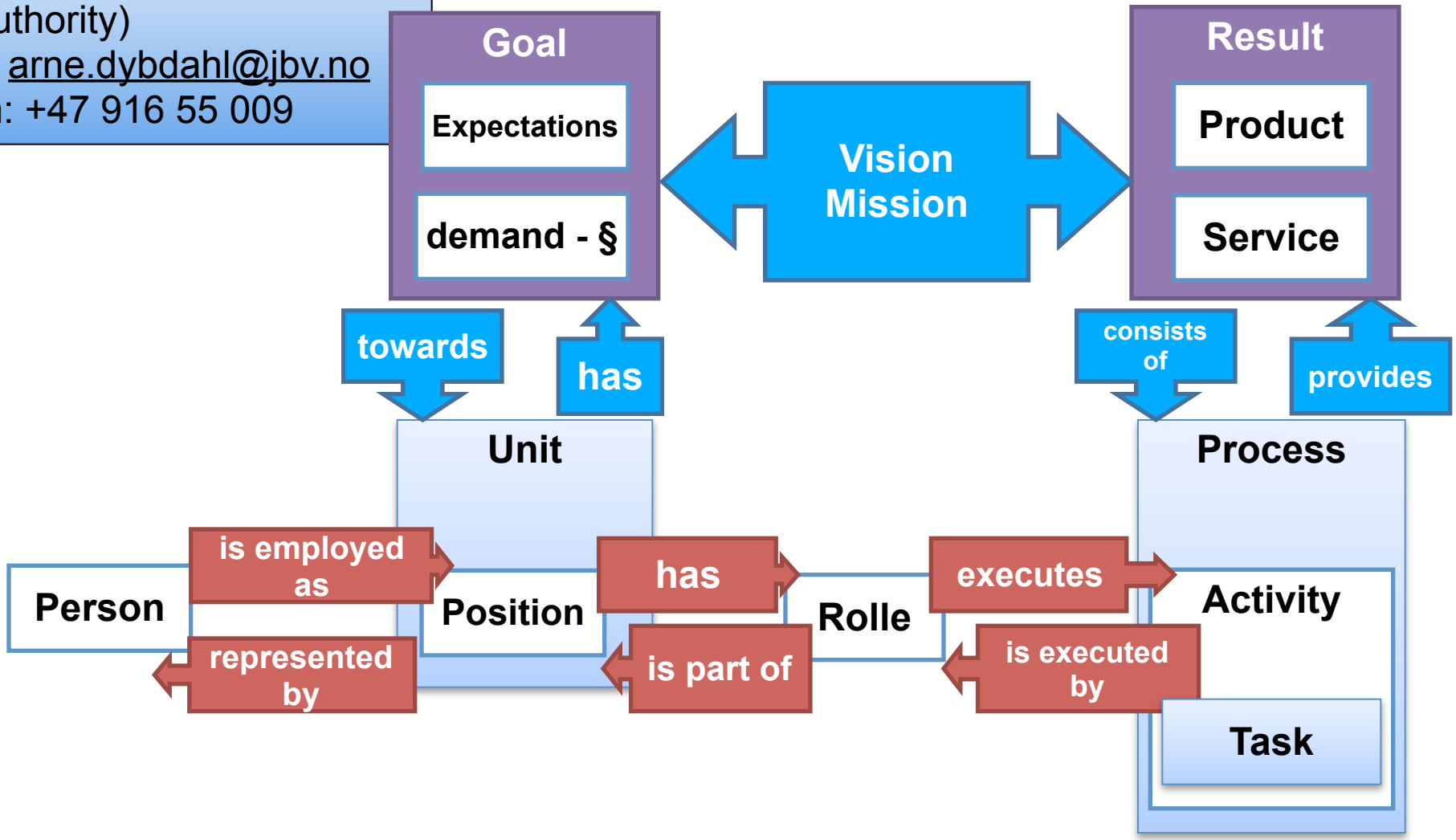

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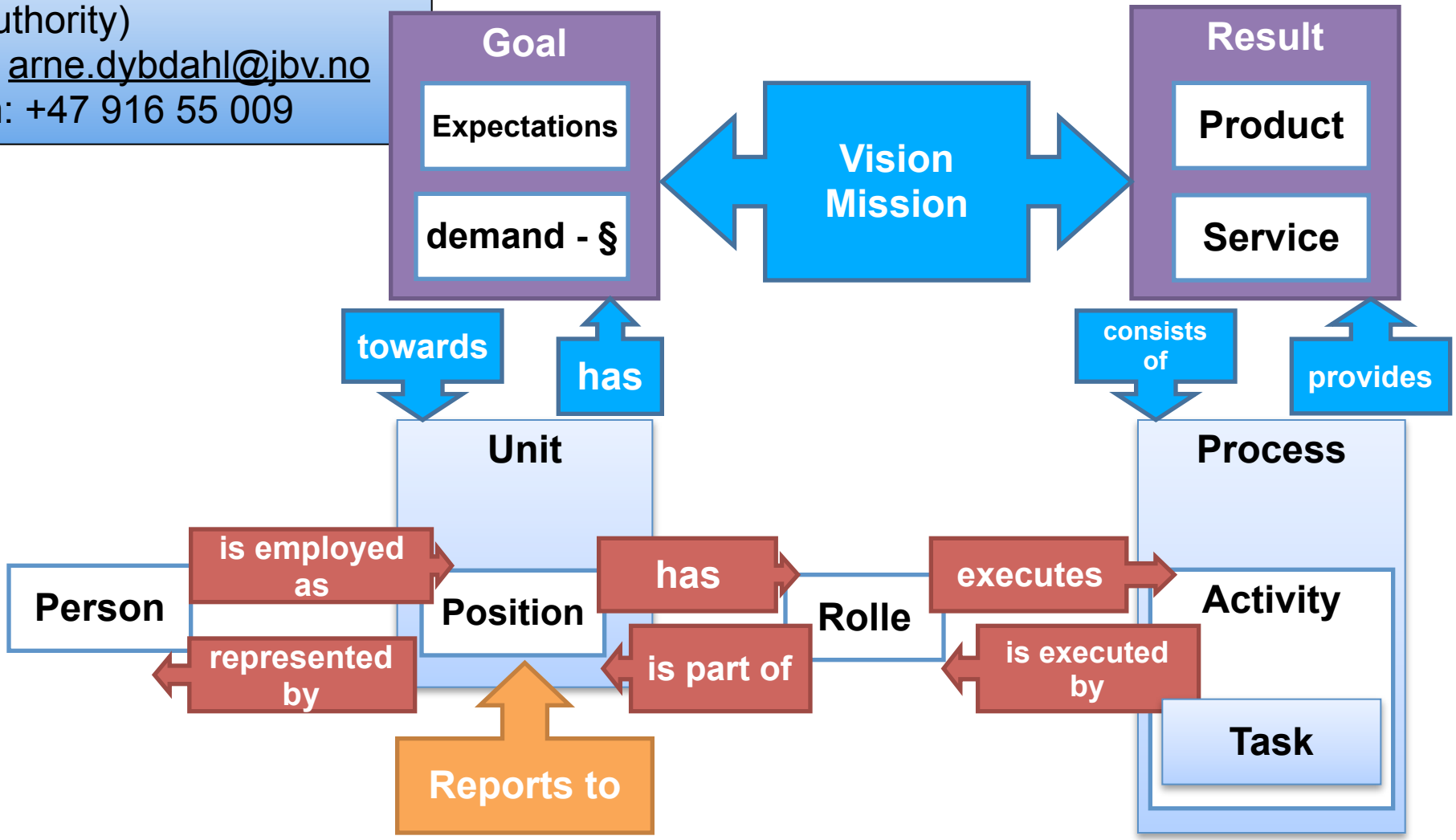

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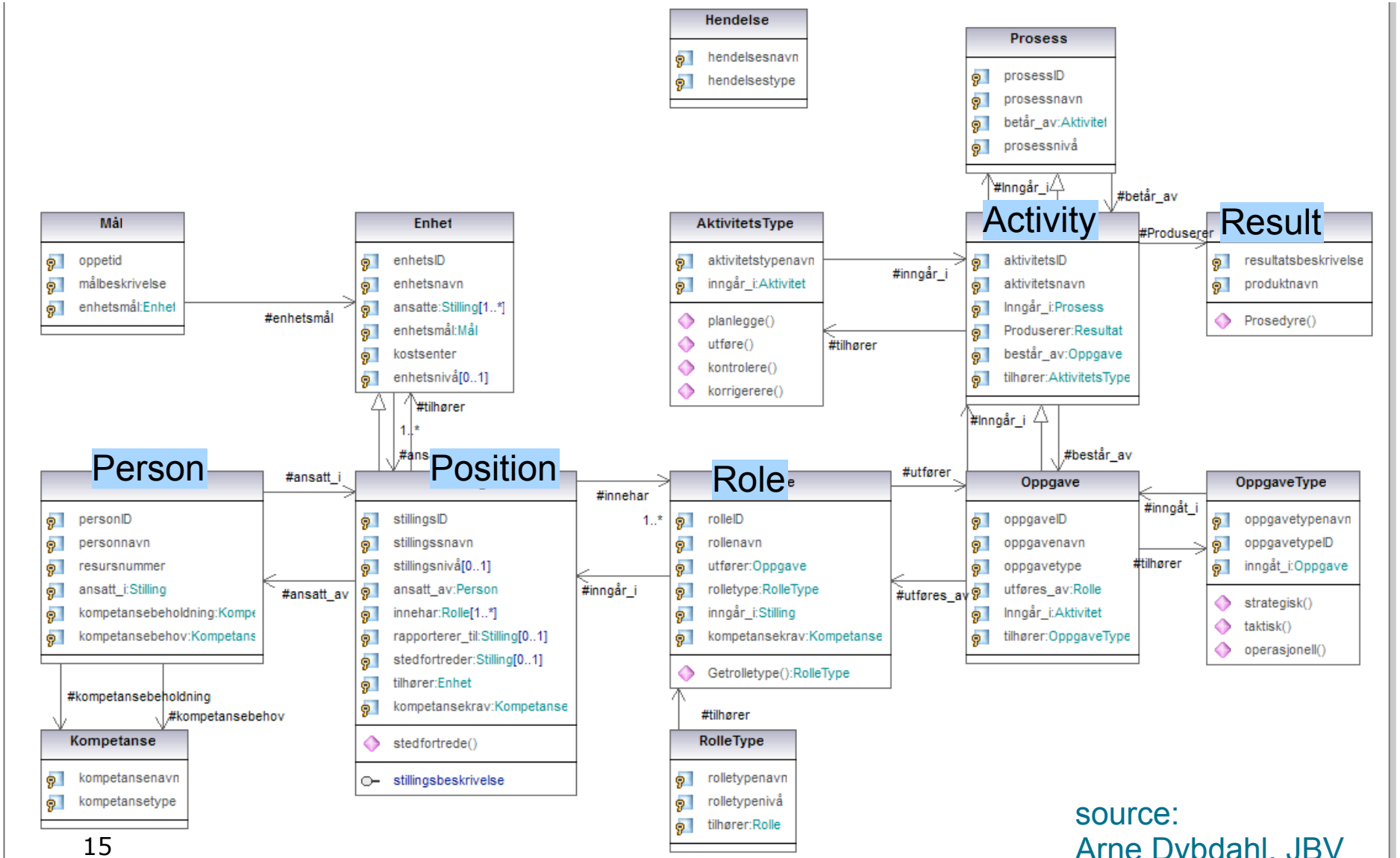
A slightly bigger semantic model



source:
Arne Dybdahl, JBV

JBV - three examples

Punctuality

- how can sensors contribute to knowledge about real time train information

Processes

- Sensors to measure variance in the production

Processes

- semantic descriptions for interoperability

source:
Arne Dybdahl, JBV

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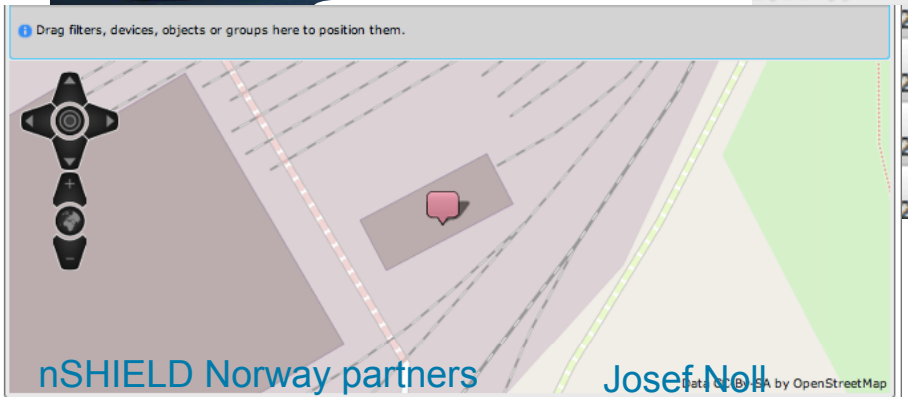
Telenor Objects

Connecting through Shepherd ®

Time	Subject Id	Type	Unit	Value
2011-09-21T11:10:12.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	axis.x		0.765625
2011-09-21T11:10:12.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	axis.y		-0.21875
2011-09-21T11:10:12.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	axis.z		0.59375
2011-09-21T11:10:12.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	altitude		105.426
2011-09-21T11:10:12.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	temperature	K	299.65
2011-09-21T11:10:12.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	custom.id		0014.4F01.0000.7904
2011-09-	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	axis.tilt	degrees	0.59375
2.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	longitude		11.023202748
2.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	latitude		59.953428316
2.628	dev:40170A10-8CA1-FD6D-6CAB-AB647016DB8B	light		7



Telenor Objects

- Started 1st of July 2009
- Several customer cases already live within RFID, sensoring and control
- Target markets: 1. Scandinavia, 2. Other Telenor markets, 3. Other M2M intensive markets
- Working closely with Telenor sales channels to expand footprint

Our Vision:
To be best in class enabling open communication between any device and any application

source:
Arild Herstad, Telenor

telenor | objects

Telenor focus within M2M

Value added services (applications, SI)

Partners

System Applications (service enablement)

telenor | objects

Network Services (connectivity)

telenor | connexion

telenor

Devices on net

Partners

source:
Arild Herstad, Telenor

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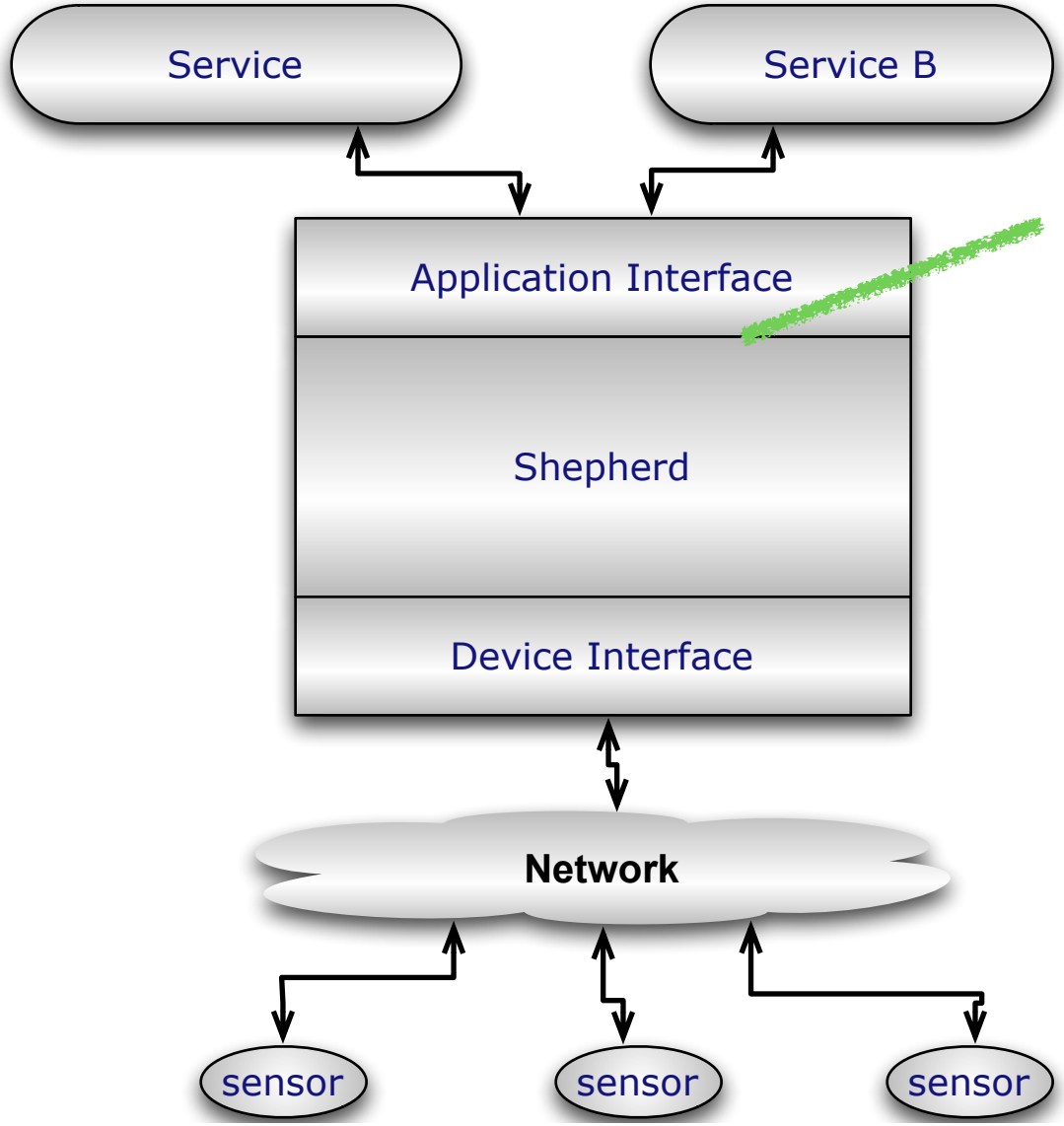
Telenor Objects Platform



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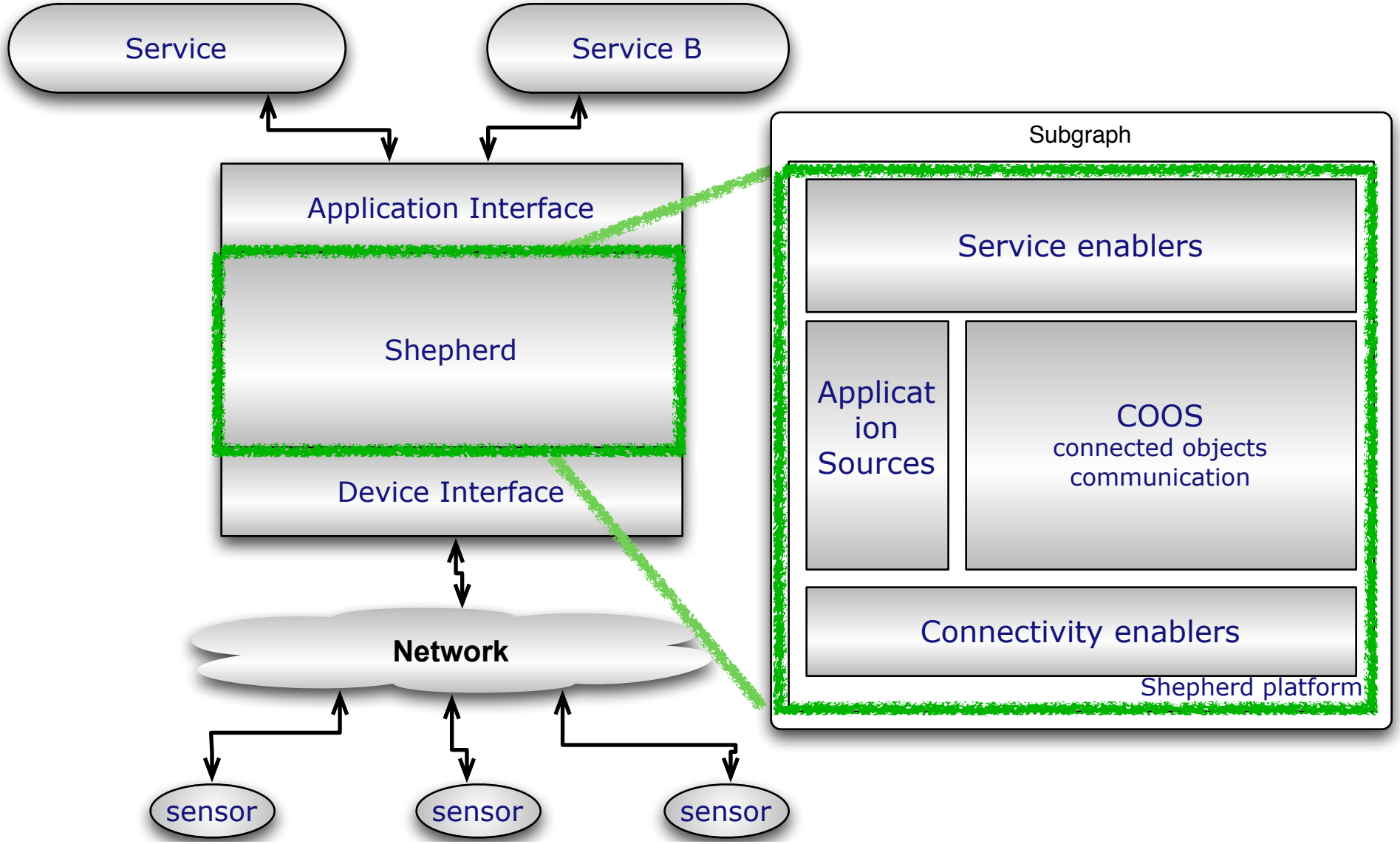
Telenor Objects Platform



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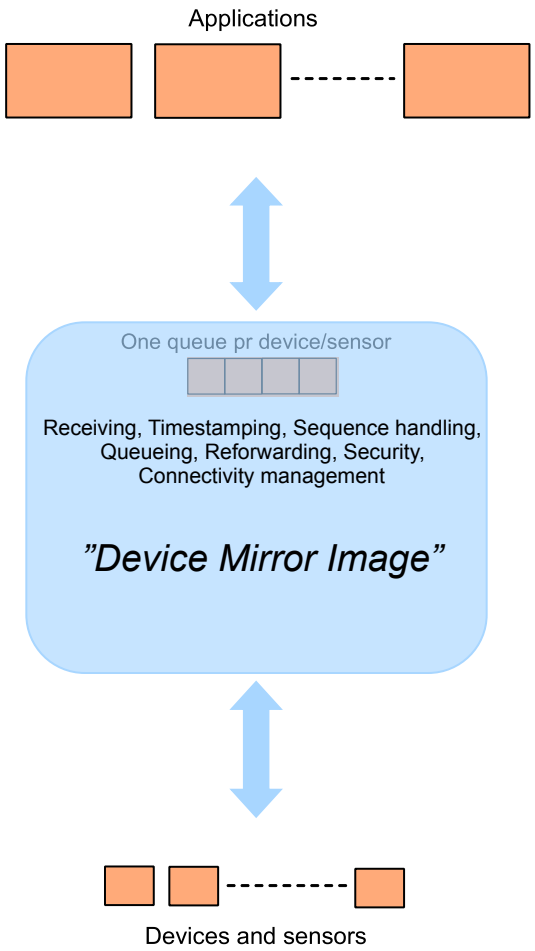
Telenor Objects core offering



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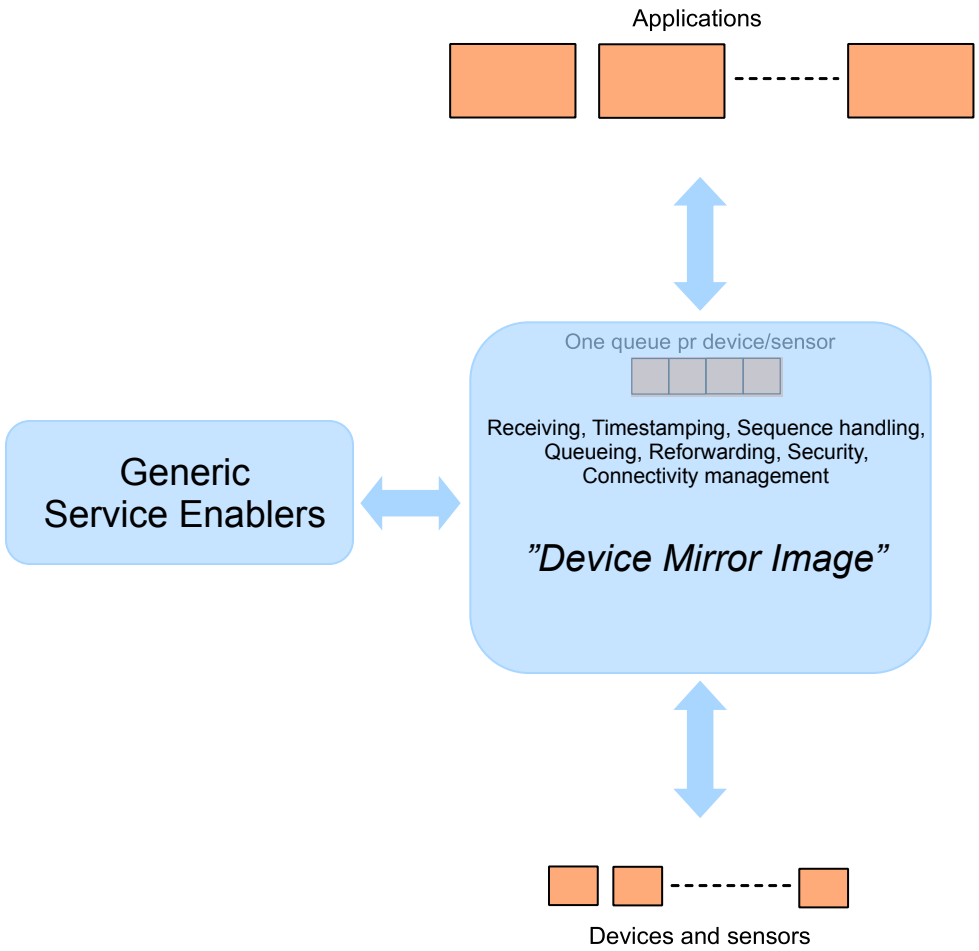

source:
Arild Herstad, Telenor

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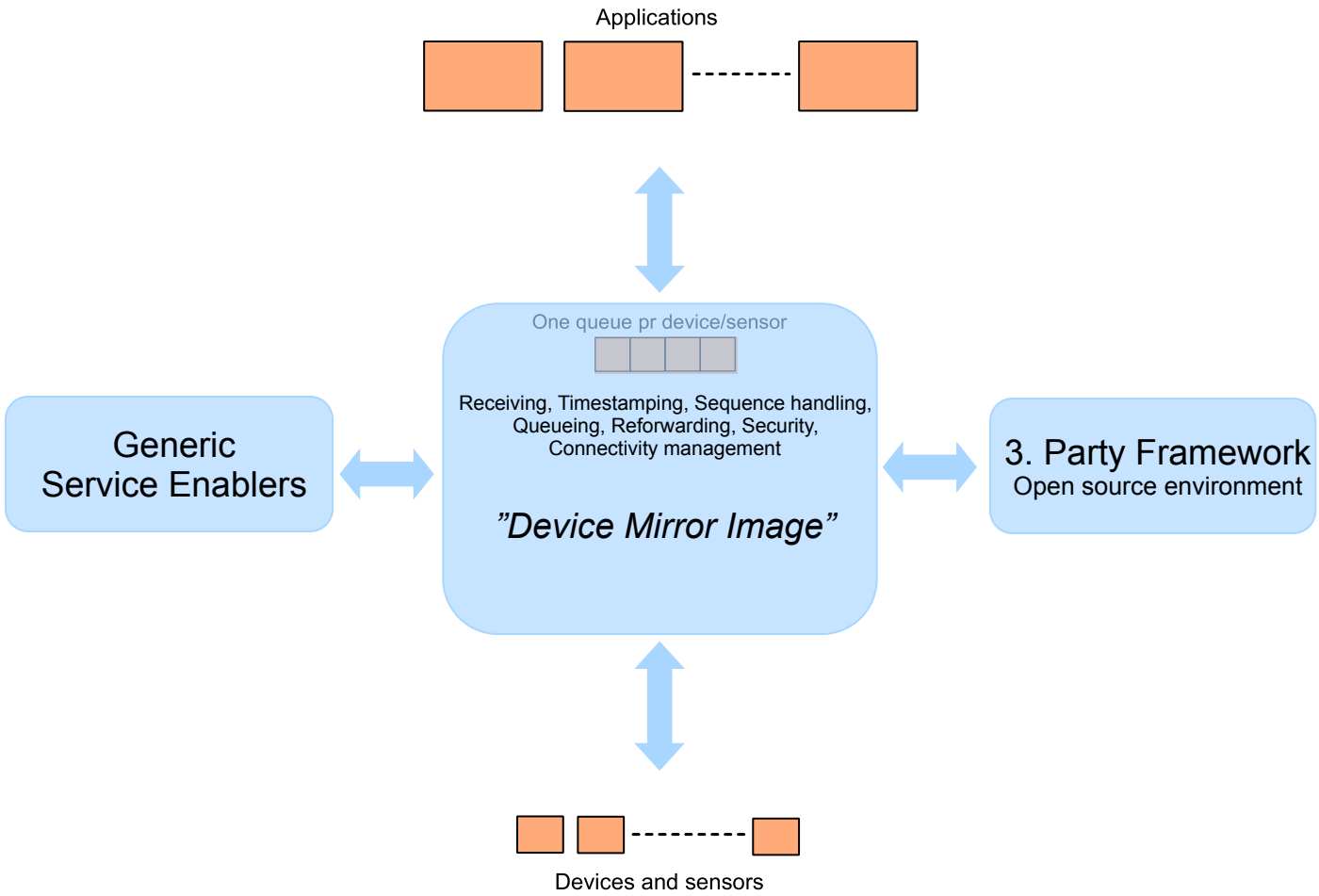
Telenor Objects core offering



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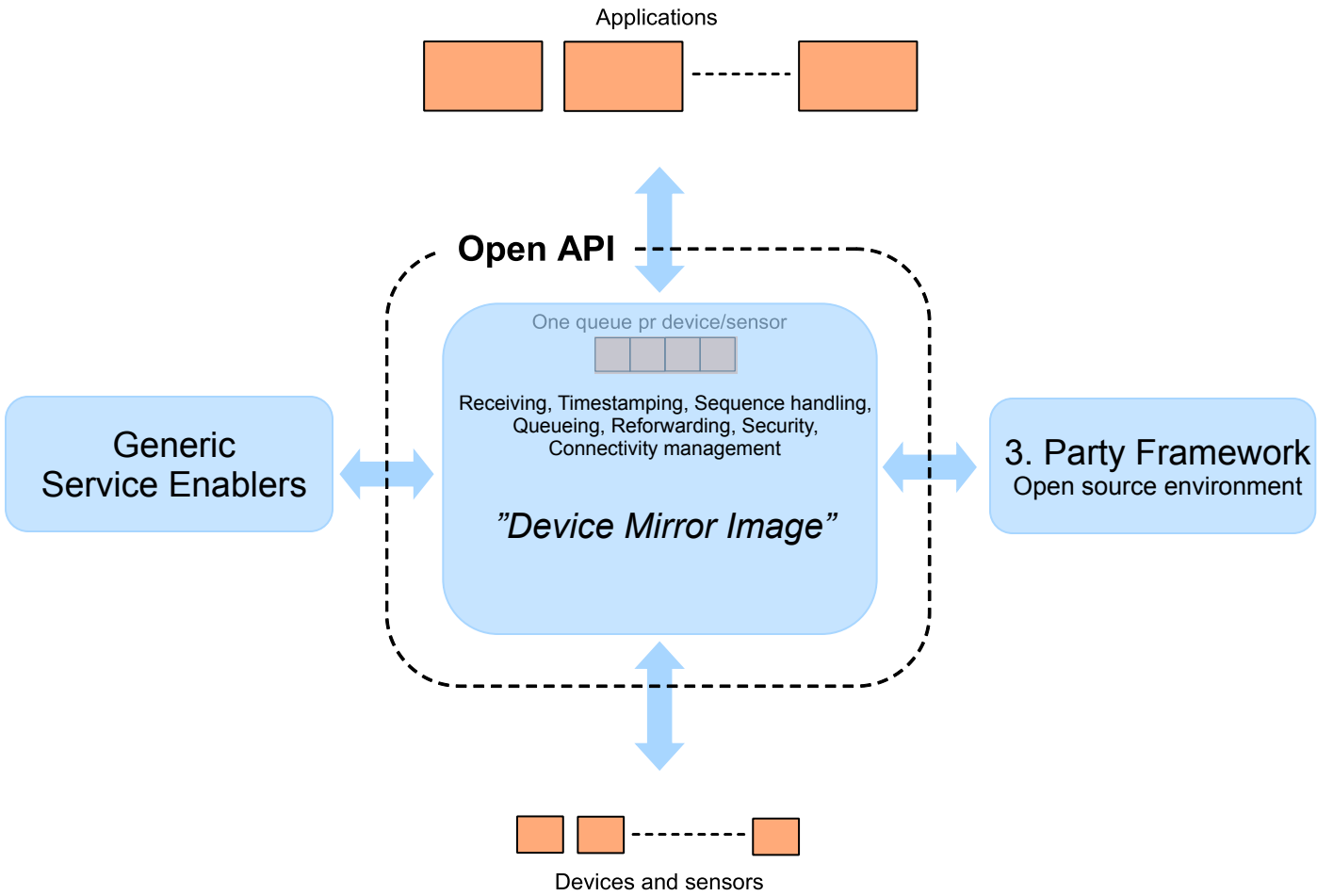

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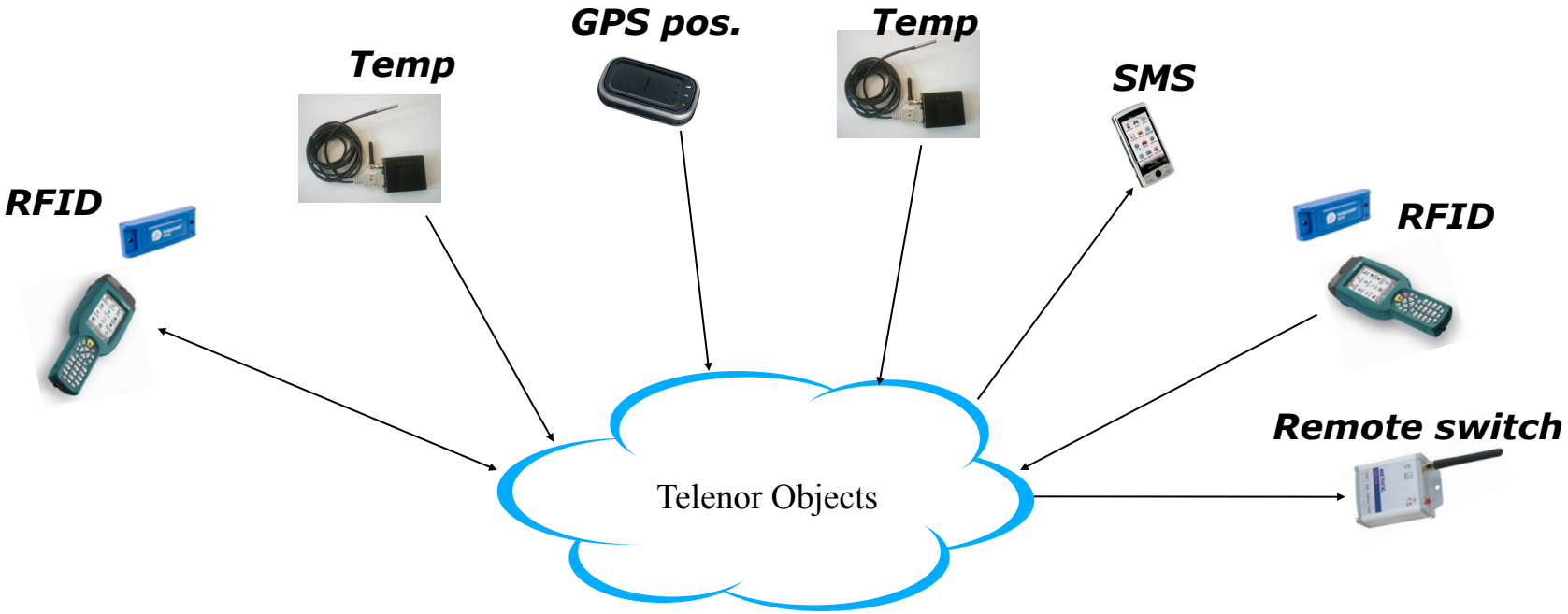
telenor | objects

Potential demonstrations



User interface:

-Sign in

-Define SMS user

-Define temp varning message

-Define Temp treshold

-Simple table

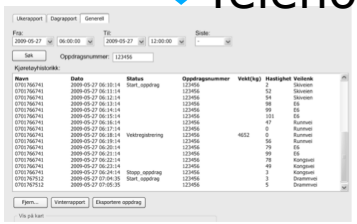
-RFID inn/out storage

-Temp table

-GPS + GSM pos in map

-Track log in map (GPS)

-Option: Activate/deactivate remote switch (SMS)



Devices:

RFID:	- In and out of storage
Temp:	- Actual temp
	- Alarm treshold
	- SMS message warning
GPSpos:	- Actual position
	- Track log
SMS:	- Define user (SMS number)
	- Define SMS message
Remote switch:	Activate/deactivate

source:
Arild Herstad, Telenor

telenor | objects

FFI Forsvarets forskningsinstitutt
Norwegian Defence Research Establishment

FFI

Research for the Norwegian Defense

FFI is the prime institution responsible for defence-related research in Norway. The Establishment is the chief adviser on defence-related science and technology to the Ministry of Defence and the Norwegian Armed Forces' military organization.

In the area of authentication and identity management in tactical and mobile networks, FFI is interested in a cooperation on "identity management in the internet of things", including tags (NFC), sensors and embedded systems. The challenge they are facing is to estalish an IdM which is scalable, can use non-consistent communicaiton channels such as NFC and to use cryptalgorithsm being supported by microcontrolers. pSHIELD is of interest for FFI, especially with respect to identity and cryptography.

SIMLINK

the trusted SIM in every device

Simlink has developed a WLAN SIM, providing
* security options with OTA (over the air application insta
* interesting technology for micro- and personal-nodes
* several sensor applications in the market