Center for Wireless Innovation Norway
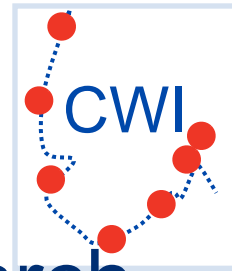
http://cwin.no

CWI

Norway

represented by:
Josef Noll, Professor
University of Oslo/UNIK
josef@unik.no

Høgskolen i Telemark

NTNU

UNIVERSITETET I AGDER

UNIVERSITETET I OSLO

HØGSKOLEN I BERGEN

UNIK
UNIVERSITETSSTUDIENE PÅ KJELLER

Universitetet i Stavanger
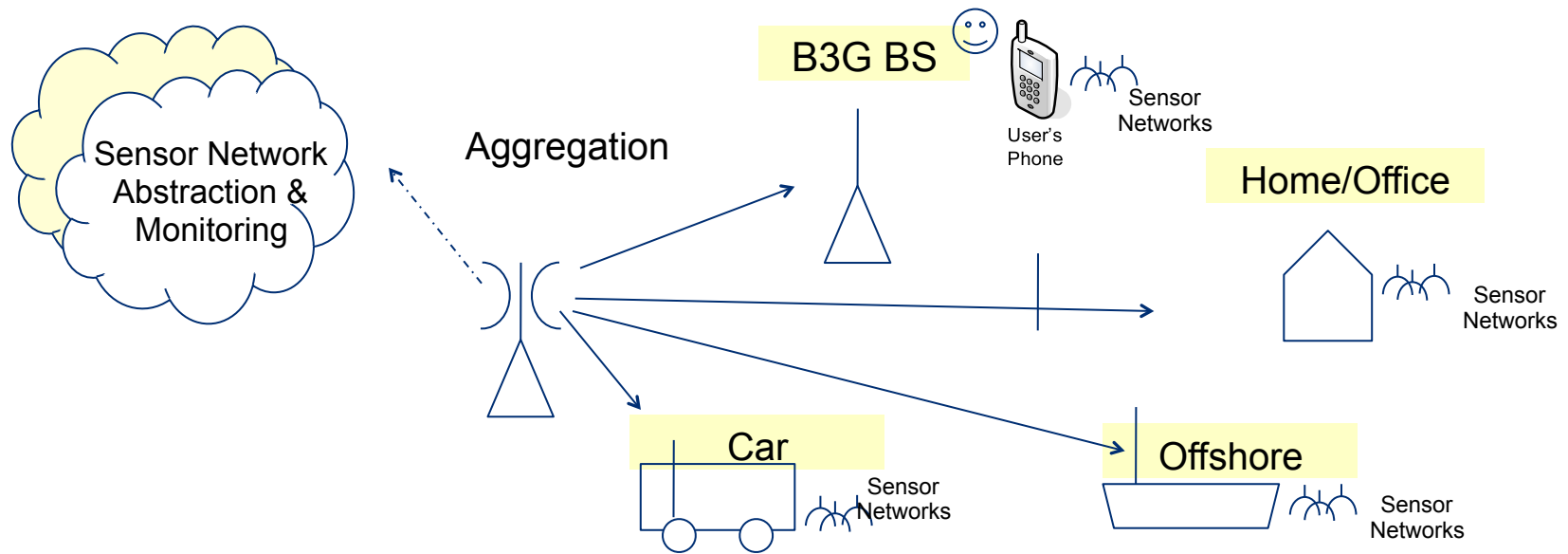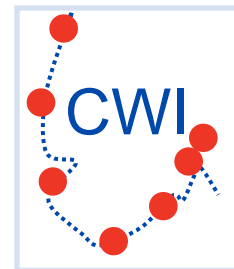
Center for Wireless Innovation

CWI

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

Sensor Network Abstraction & Monitoring

Aggregation

B3G BS

User's Phone

Sensor Networks

Home/Office

Sensor Networks

Car

Sensor Networks

Offshore

Sensor Networks

Høgskolen i Telemark

NTNU

UNIK
UNIVERSITETSSTUDIENE PÅ KJELLER

UNIVERSITETET I AGDER

UNIVERSITETET I OSLO

HØGSKOLEN I BERGEN

Universitetet i Stavanger

Visibility & Impact

- CWI aims at being Norway's leading research partner in wireless communications.

- CWI offers companies a platform to create awareness of their products and priorities to a larger audience, and international network … if desired.

- CWI projects can contribute to visualise user benefits and demonstrate future scenarios to the public and potential customers.
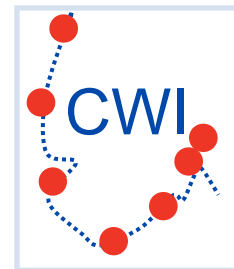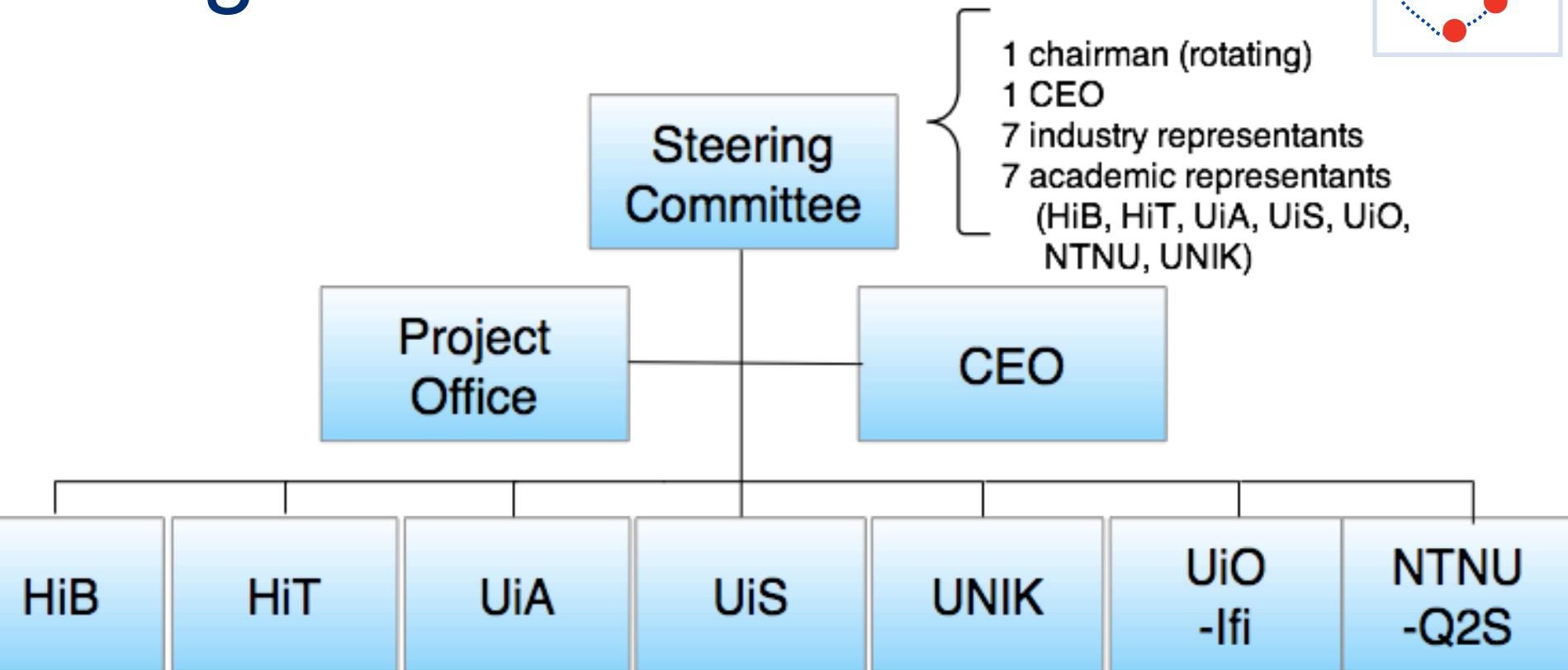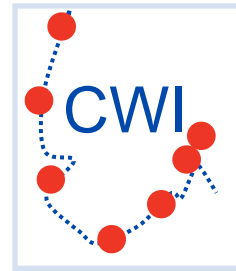
Applied R&D Contributions

- Input to company strategies and R&D is supported by a broad range of competencies.

- Project teams will consist of professors, senior researchers, PhD students, and talented research students.

- Pre-competitive R&D projects can be co-financed by NFR, SKF, EU between 40-100%.

- Most professors driving CWI have worked many years in industry in leading positions, and therefore have a very good understanding of industry needs.

Høgskolen i Telemark

NTNU

UNIK
UNIVERSITETSSTUDIENE
PÅ KJELLER

UNIVERSITETET I AGDER

UNIVERSITETET
I OSLO

HØGSKOLEN I BERGEN

Universitetet
i Stavanger

Organization

Steering Committee
- 1 chairman (rotating)
- 1 CEO
- 7 industry representants
- 7 academic representants (HiB, HiT, UiA, UiS, UiO, NTNU, UNIK)

Project Office

CEO

| HiB | HiT | UiA | UiS | UNIK | UiO -Ifi | NTNU -Q2S |

Why a distributed virtual center?

Globalisation

Visibility

CWI Impact

Norway

Høgskolen i Telemark

NTNU

UNIVERSITETET I AGDER

UNIVERSITETET I OSLO

HØGSKOLEN I BERGEN

UNIK UNIVERSITETSSTUDIENE PÅ KJELLER

Universitetet i Stavanger

Because of the close contact to our distributed industry

CWI

Norway

Because of the close contact to our distributed industry

Trondheim

Bergen

CWI

Oslo

Stavanger

Agder/Telemark

Norw

CWI
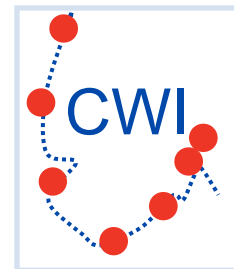
Highly Skilled Young Talents

- Companies will very competent young engineers requiring less initial competence development, and thereby contribution much earlier to the company.

- CWI will include the most talented students in research projects.

- "Research Students" will have much deeper specialized knowledge about wireless systems and greater problem solving skills than can be taught during BSc/MSc education.

Research Challenges

CWI
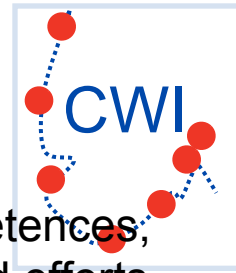
- Business Integration: Unified Solutions
  - cross-industry, cost-effective, multi-dimensional, complementary competences, know-how sharing, synergy, larger impact, better exploitation, combined efforts, SOA, widely applicable solutions
  - access, quality, security, payment, … as a service
  - economic value networks
- Information Model & API Integration
  - Resource & service aggregation
- Access network aggregation and integration
  - Handling heterogeneous networks
  - Sharing resources & network infrastructure
  - offering logical networks vs. physical networks
  - "switchlets"
- Wireless technology aspects
  - facilitating energy efficient, reliable sensor networks
  - "networks of things, services & the real world"
  - virtualization of network nodes
  - instrumentation & observability
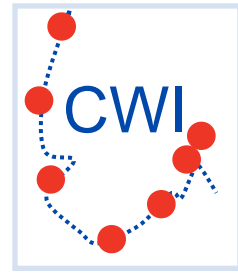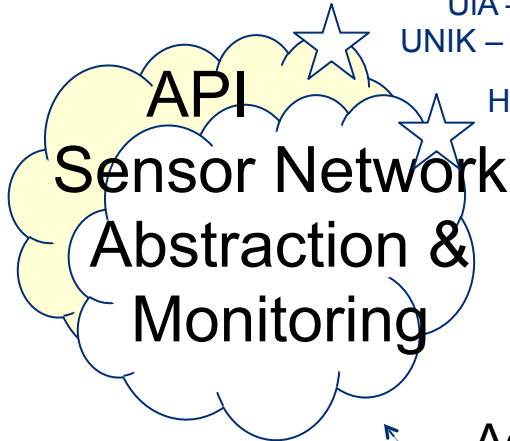 - testing & verification

Høgskolen i Telemark

NTNU

UNIK
UNIVERSITETSSTUDIENE
PÅ KJELLER

UNIVERSITETET I AGDER

UNIVERSITETET I OSLO

HØGSKOLEN I BERGEN

Universitetet i Stavanger

13

Research Area:
Sensor Network Integration

CWI

HiB – Information Model
UiA – Security & Trust
UNIK – Semantic Integration

API
Sensor Network
Abstraction &
Monitoring

HiT – Redundancy, Aggregation, Soft Sensor
HiB – Data Fusion
UNIK - Virtualization

UNIK – context sensor
UiA – End User applications, eHealth

HiB – QoS, Traffic Eng.,
UiA, UiS – Mesh Networking

User's Phone

Sensor Networks

Aggregation

3G/B3G BS

HiB – Energy & Environment
HiT – Energy
UiA – Service Disc., Remote Access
UNIK – Green Footprint Monitoring

Home/Office

Sensor Networks

Offshore

Sensor Networks

Car

HiB - Subsea
UiS, UiA - Multihop

Sensor Networks
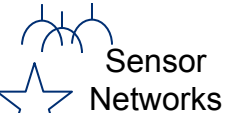
HiT – Energy Efficiency, Soft Sensors
HiB – Radio Nodes

Sensor Networks

FFI, UNIK - Security

Høgskolen i Telemark

NTNU

UNIK
UNIVERSITETSSTUDIENE
PÅ KJELLER

UNIVERSITETET I AGDER

UNIVERSITETET I OSLO

HØGSKOLEN I BERGEN

Universitetet i Stavanger
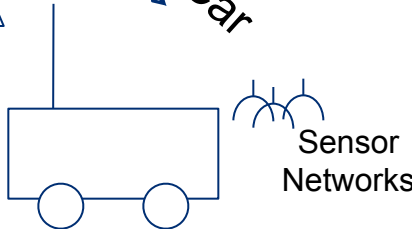
Research Area:
Aggregation Scenario

WiMax BS

3G/B3G BS

Radio AP

Aggregation

Tetra

WiMax Operator 1

WiMax Operator 2

3G/B3G Operator

Corp. Operator
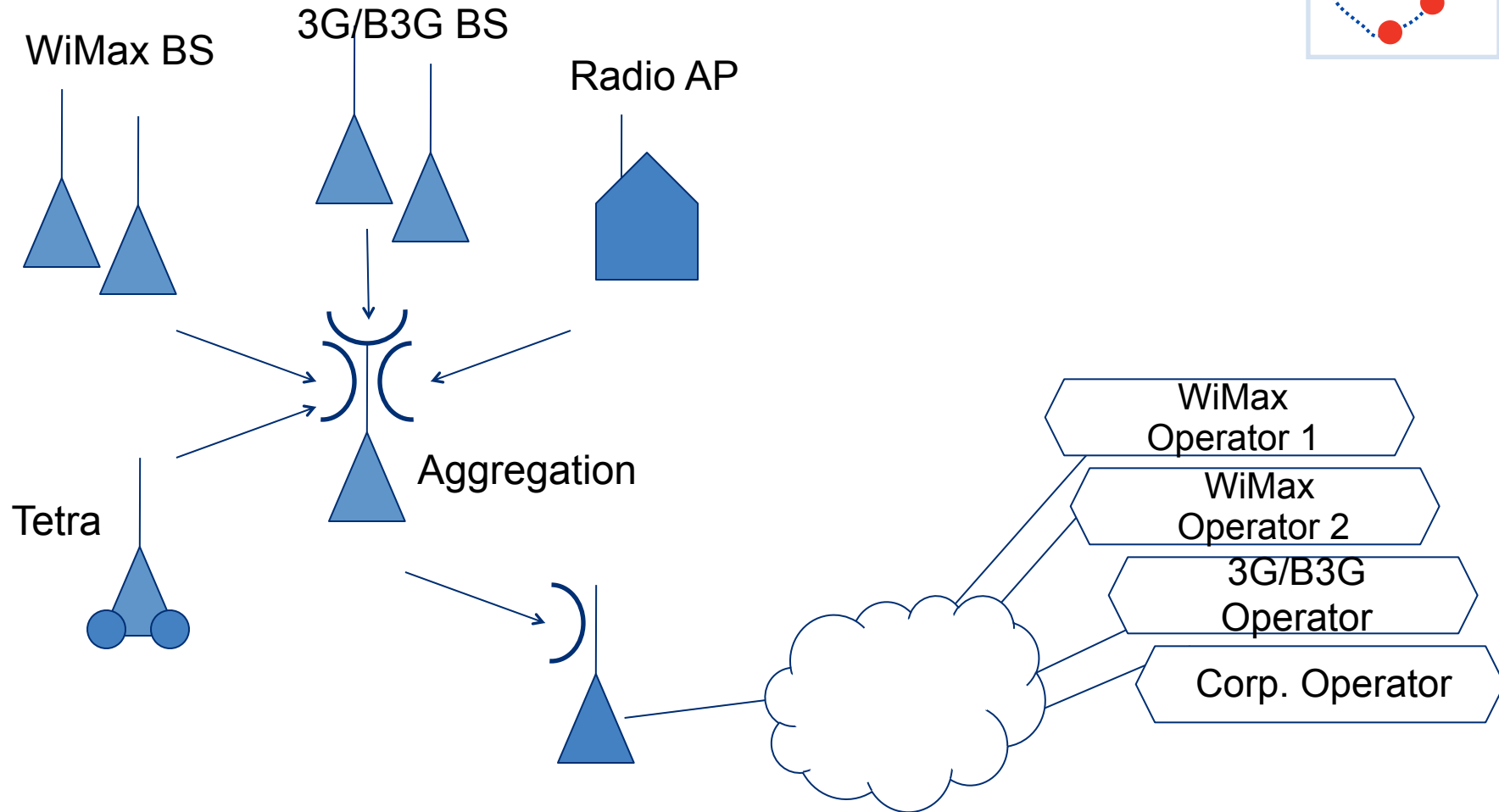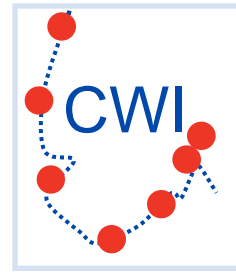
Status

- Q3 2009 – Anchor with home institutions & industry
- Q3 2009 – Launch Center (official launch in Jan 2010)
- Q3 2009 – Common Workshop with CTIF on 5G
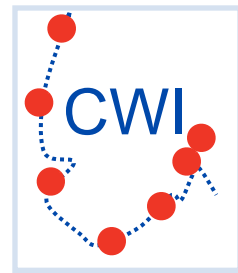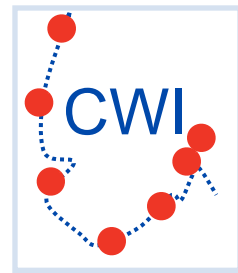 Co-operation agreement CTIF-CWI, "Nordic extension"
- Q1 2010 – Integrate industrial partners
  Initial talks with Nera Networks, Movation, Telenor, ...
- Q1 2010 – Concept for PhD school cooperation
- Q2 2010 / Q4 2010 – CWI workshops/seminars
- Q2 2010 – Common PhD summer school announced

CWI Scientific Contacts

- Høgskolen i Bergen (HiB), Avdeling for ingeniørutdanning
  Knut Øvsthus, Knut.Ovsthus@hib.no

- Høgskolen i Telemark (HiT), Avdeling for teknologiske fag
  Nils-Olav Skeie, Nils-Olav.Skeie@hit.no

- Universitetet I Agder (UiA), Fakultet for teknologi og realfag
  Frank Reichert, frank.reichert@uia.no

- Universitetet i Oslo (UiO), Institutt for Informatikk
  Stein Gjessing, steing@ifi.uio.no

- Universitetssenteret på Kjeller (UNIK)
  Josef Noll, josef@unik.no

- Universitetet i Stavanger (UiS), Teknisk-naturvitskapleg fakultet
  Chunming Rong, chunming.rong@uis.no

- Norwegian University of Science and Technology (NTNU),
  Q2S - Centre for Quantifiable Quality of Service in
  Communication Systems
  Øivind Kure, okure@unik.no

This list contains the main contacts

Covering large parts of Norway