# WISENET

## Uppsala VINN Excellence Center for Wireless Sensor Networks
### Director Per Gunningberg and assistant director Roland Grönroos

Dear Researcher, Student and Employee we proudly presents WISENET after 4 years of activity. Around you are posters describing our research in Ångström Laboratory Uppsala university and SICS as well as at our 12 industrial or public partners.

## Wisenet Center is about

- *Long Term Collaboration - 10 years (start 2007)*
  - Stimulate Innovations
  - Put research results into industrial usage
  - Industry relevant applications
- *Resilient, robust, and secure* wireless sensor networks with a minimum of manual maintenance.
- Manage and generate *sensor node energy.*
- *Integrate* sensing, data processing and communication into cost effective units attached *to Internet*.

## Collaborative Research for Innovation.



## Quality and Renewal  (KoF 2011)

Publicly available since november 18, 2011 at  http://www.uu.se/en/research

**Rating 1 (Top-quality). WISENET is an internationally outstanding center for multidisciplinary research on wireless sensor networks.** The tight integration of industry and academia is highly convincing. They seamlessly work as a team that heads for innovative common goals. The focus of the center is on prototypes as well as on experimentation and simulation. The prototypes are driven by a variety of Industry relevant applications (e.g., railway wagon sensor, freezer monitoring). The work covers a broad spectrum. It ranges from operating systems and networks to radio-signals, micro-systems and energy harvesting. This is considered as an internationally unique feature. Many innovative concepts have been developed, e.g., the flexible sensor nodes, the smart wake-up radio and the low energy electronic shelf labels.

The partners publish their work regularly and cover leading international conferences, such as ACM SenSys, IPSN and EWSN. They have received awards such as best paper award and best demo award. Moreover, start-ups have originated from Wisenet and several patents have been produced.

## WISENET Staff

| | Numbers |
|---|---|
| University | 20 |
| Research Institutes | 18 |
| Industry | 13 |
| Public partners | 5 |

### Principal investigators

Per Gunningberg
Anders Ahlén
Bengt Ahlgren
Klas Hjort
Ilia Katardjiev
Anders Rydberg
Thiemo Voigt

### Research Competencies

- *Software:* Operating systems, security and programming
- *Networking:* Application to MAC layer
- *Physical layer:* Radio, signals and antennas
- *Micro systems:* Component integration into robust sensor nodes
- *Sensors:* Low power, sensitive and energy harvesting

## Nine Awards to WISENET staff, examples

- Cor Baayen Award
- Top Internet of Things Thinker
- Bengt Asker Award for best MSc thesis

## Result Summary (2011)

- Start-up companies: 3
- PhD/Lic degrees: 10
- Published reviewed papers: 162

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