

# Coordinating a project in FP7

- what is important?

*Martin Eickhoff*

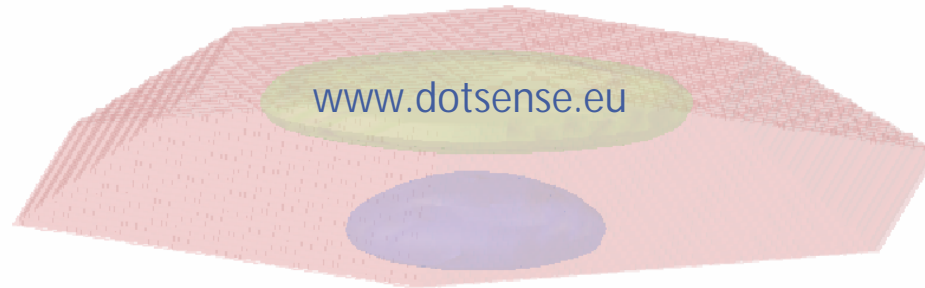
*I. Physikalisches Institut, Justus-Liebig-Universität Gießen, 35392 Gießen*



DOTSENSE

# GaN quantum dots as optical transducers for chemical sensors

- DOTSENSE -



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Technische Universität München  
Germany



Electron Microscopy Lab, Dep. of Physics  
Aristotle University Thessaloniki  
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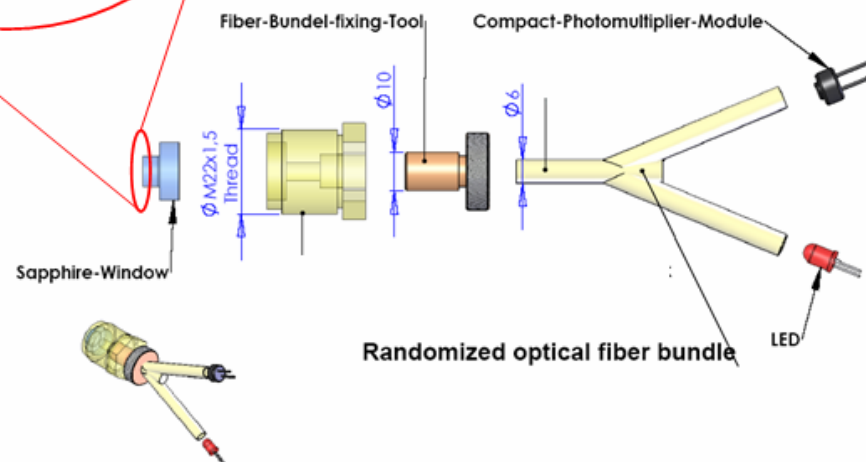
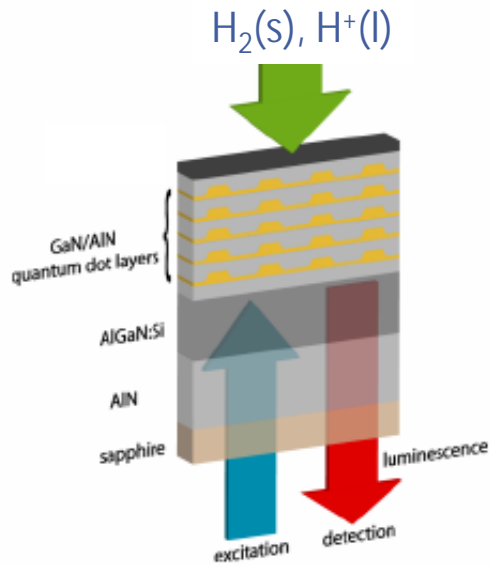
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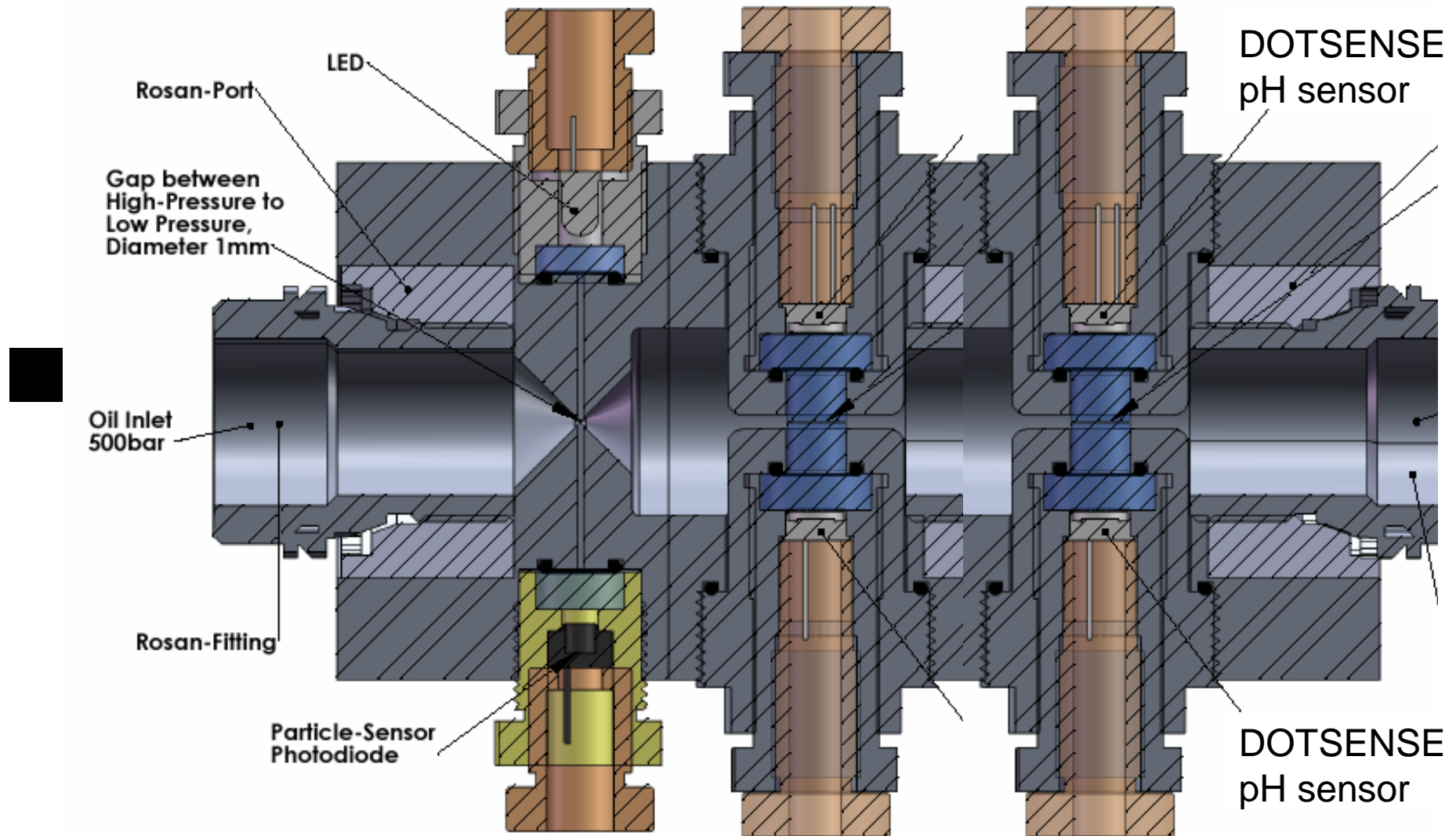
# Objectives

Development of nano-optical transducers based on (In)GaN quantum dots for chemical sensors operating in liquid and gaseous environment

- Chemically resistive InGaN QD stack in AlN matrix
- Efficient photoluminescence at room temperature and above
- Reduction of necessary electrical feedthroughs
- Built-in separation of media
- Detection of pH and hydrogen in aerospace applications



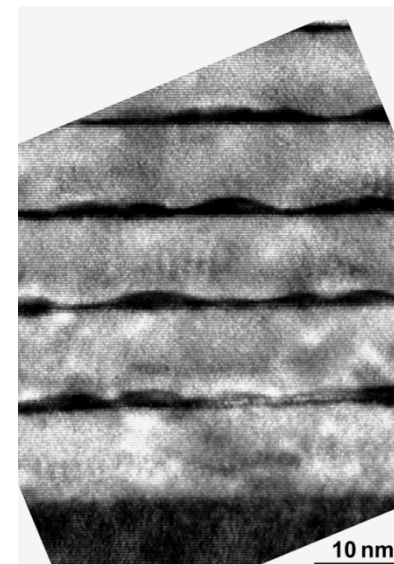
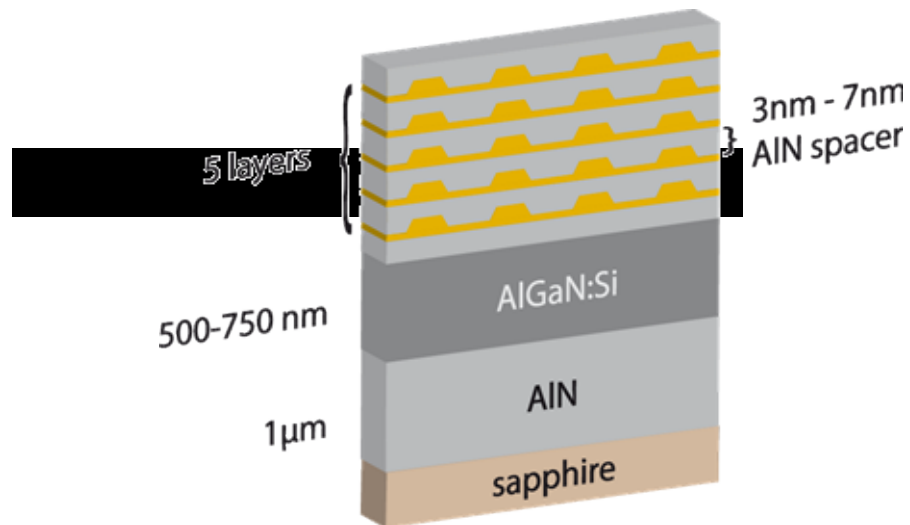
# Objectives



# Scientific objectives

Sensing mechanism:

Detection of chemically induced variations of the surface potential by detection of changes in photoluminescence characteristics

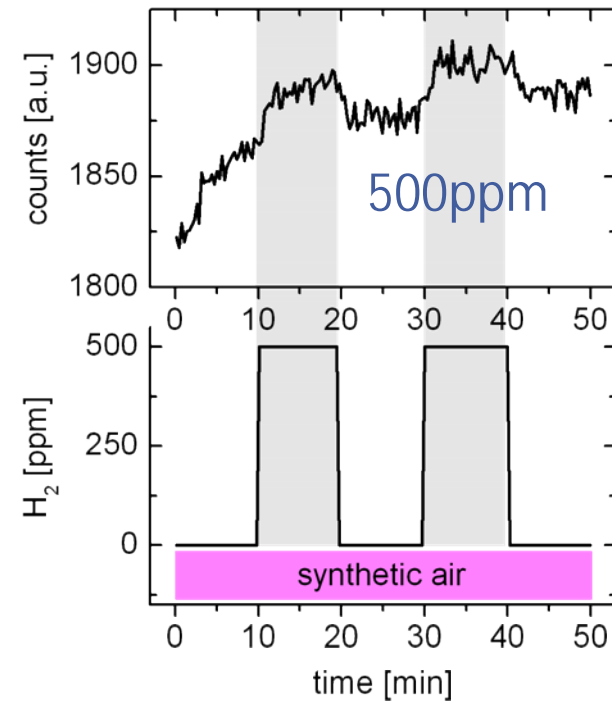
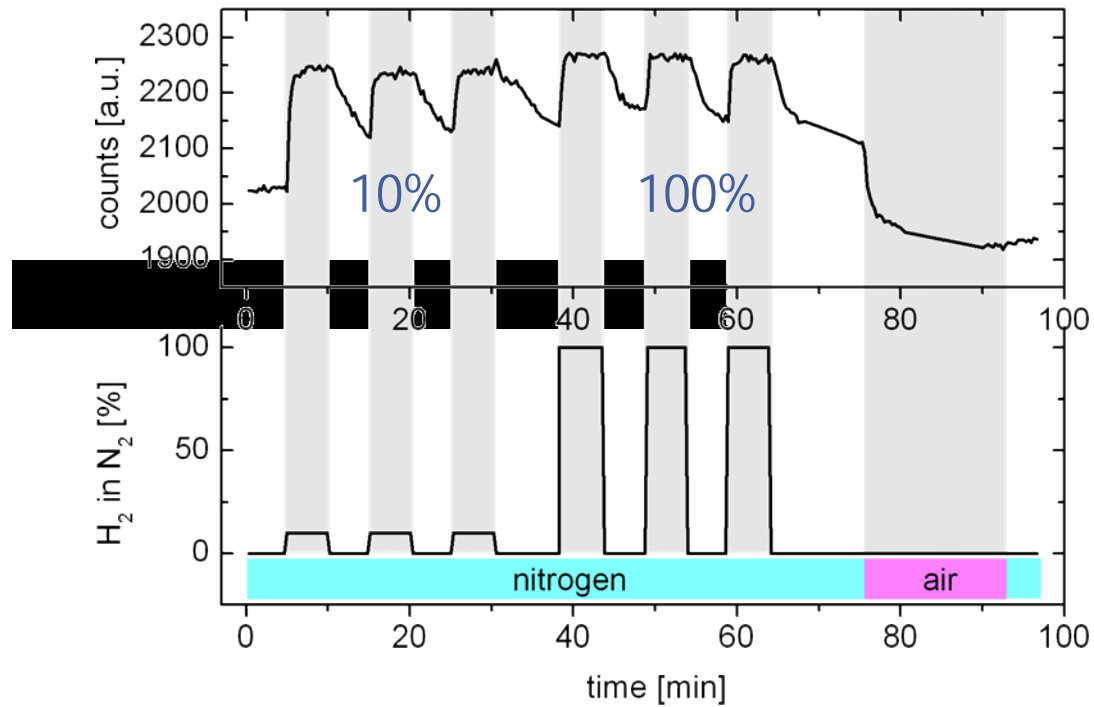


HRTEM image of the GaN/AlN QD stack

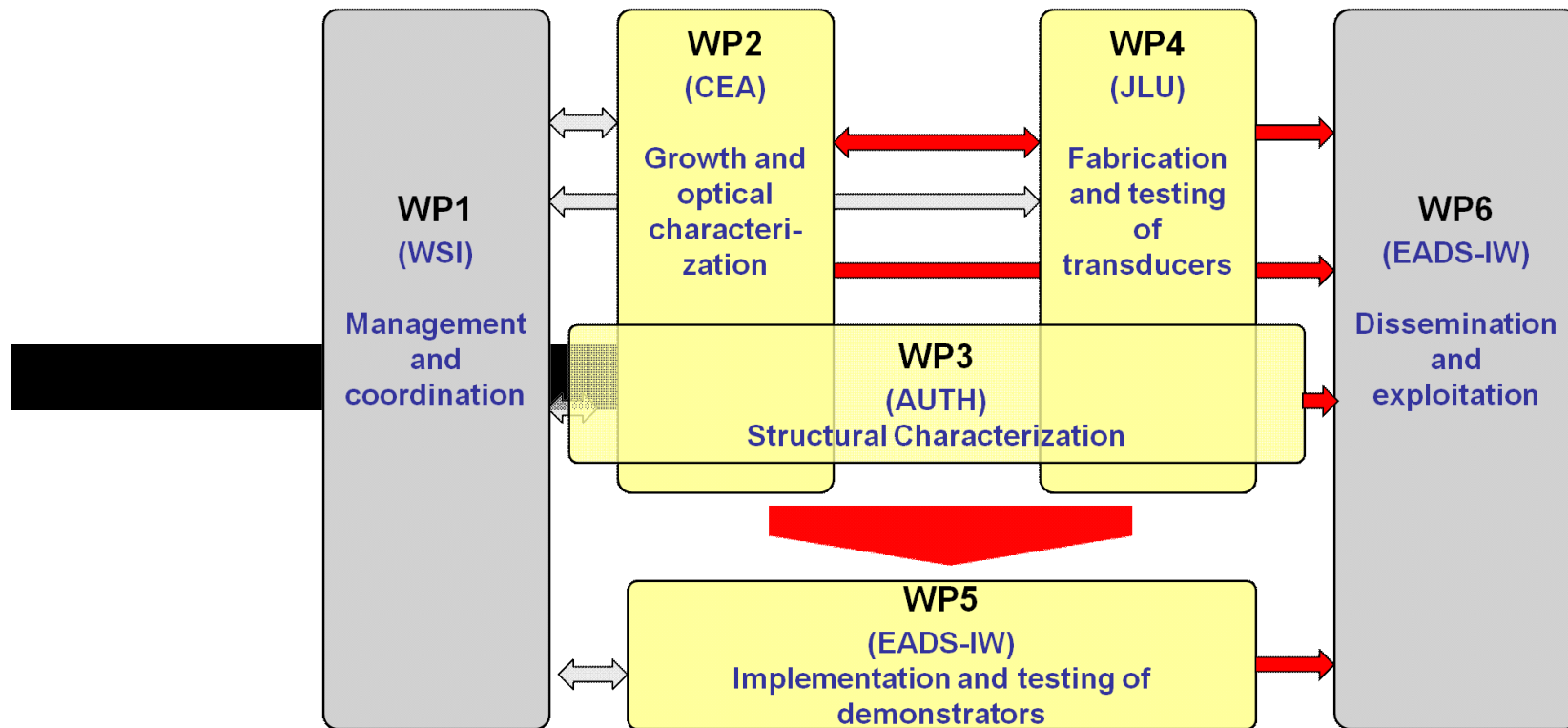
- growth by plasma assisted MBE on AlN buffer
- growth temperature 730°C-750 °C
- conductive  $\text{Al}_x\text{Ga}_{1-x}\text{N}:\text{Si}$  -layer (back contact)
- compressive stress induces Stranski-Krastanov growth of QDs

# Scientific background – detection of hydrogen

## PL intensity at fixed wavelength



# Organization of Work Packages and Consortium



## Part A IMPLEMENTATION OF THE *PROJECT*

### ***SECTION 1 – GENERAL PRINCIPLES***

#### **II.2. Organisation of the *consortium* and role of *coordinator***

1. All the *beneficiaries* together form the *consortium*, whether or not they enter into a separate written *consortium agreement*. *Beneficiaries are represented towards the Commission by the coordinator, who shall be the intermediary for any communication between the Commission and any beneficiary, with the exceptions foreseen in this grant agreement.*
2. The *Community financial contribution* to the *project* shall be paid to the *coordinator* who receives it on behalf of the *beneficiaries*. The payment of the *Community financial contribution* to the *coordinator* discharges the *Commission* from its obligation on payments.

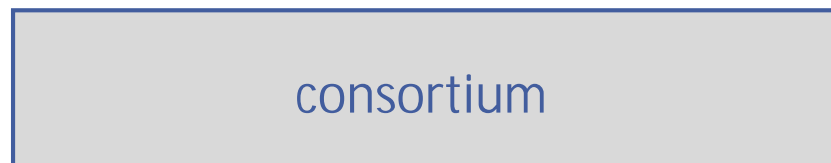
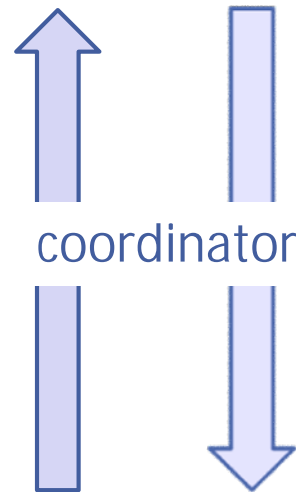
# The role of the coordinator: grant agreement

## 3. The *coordinator* shall:

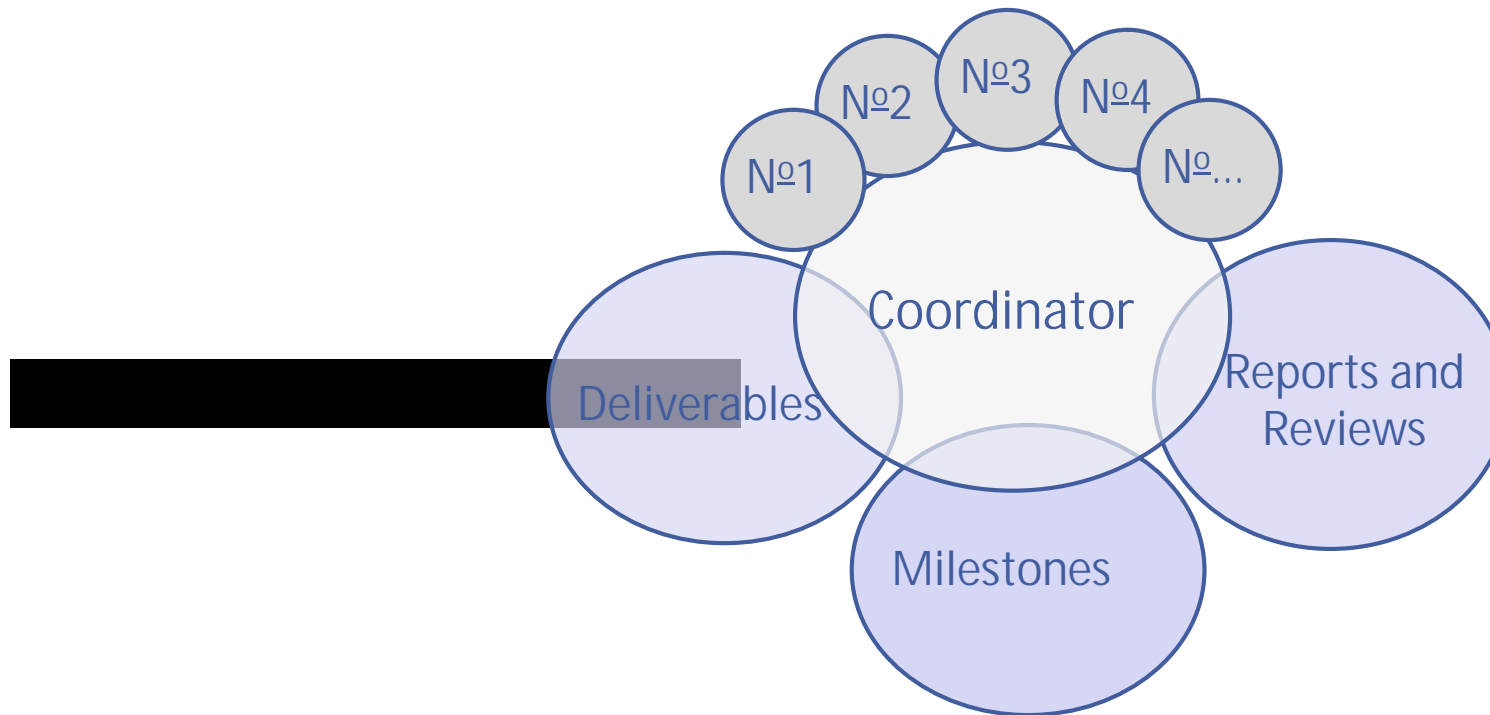
- a) administer the *Community financial contribution* regarding its allocation between *beneficiaries* and activities, in accordance with this *grant agreement* and the decisions taken by the *consortium*. The *coordinator* shall ensure that all the appropriate payments are made to the other *beneficiaries* without unjustified delay;
- b) keep the records and financial accounts making it possible to determine at any time what portion of the *Community financial contribution* has been paid to each *beneficiary* for the purposes of the *project*;
- c) inform the *Commission* of the distribution of the *Community financial contribution* and the date of transfers to the *beneficiaries*, when required by this *grant agreement* or by the *Commission*;
- d) review the reports to verify consistency with the *project* tasks before transmitting them to the *Commission*;
- e) monitor the compliance by *beneficiaries* with their obligations under this *grant agreement*.

The *coordinator* may not subcontract the above-mentioned tasks.

# The role of the coordinator



# The role of the coordinator



# Coordinator's involvement

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- Preparation and submission of proposal (calculation of budget)
- Negotiation of the project
- Modification and adjustments on the description of work (Annex I)
- Being one party in the grant agreement with the EC
- Receiving and distributing pre-financement,
- Coordination, organization and arrangement of:
  - Periodic Reports
  - Financial statements
  - Review Meetings
  - Technical Meetings
- Preparation of Consortium Agreement
- Monitoring technical progress via timely communication of Deliverables and Milestones
- Communication of specific requests from beneficiaries
- Contract amendments (new partners, change of coordinator...)

# Coordinator's involvement – grant agreement

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- Proposal submitted: 09/10/2007
  - Notification of positive evaluation 11/12/2007
  - Invitation to negotiate 21/12/2007
  - Negotiation of the project 23/01/2008
    - 1 meeting in Brussels;
- (Project officer, company responsible for exploitation, coordinator)
- 2 modifications of the Annex I (description of work, DoW)
  - Grant Agreement Preparation Forms 25/02/2008
  - Grant Agreement signed 18/04/2008
  - Start of project 01/05/2008

Guidance by the project officer!

# Coordinator's involvement – amendment

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- Request for involvement of new partner 06/2008
- Modification of Annex I and iteration with project officer 08-09/2008
- Invitation to negotiate 10/2008
- Official request for amendment 22/10/2008
- Access form to grant agreement signed 11/2008
- New beneficiary involved 01/12/2008

Guidance by the project officer!

# Coordinator's involvement – CA

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- Start immediately after project start (or before)
- Generate a draft CA, iterate with SMEs and/or larger companies
- Circulate to research institutes, mark deviations from standard
- Collect comments, communicate with SMEs and companies
- If you are lucky it is signed after 1 year....
- Can be also valid and important if it signed after the project

# Coordinator's involvement – Meetings

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- Technical Meetings organized each 6 months
- Project officer invited (never appeared)
- 1<sup>st</sup> review meeting after 12 months

(Keep in mind what's written in the proposal and the DoW!!)

# Important

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- Most important document: Annex I (DoW)
  - Any deviations from DoW: Mention timely in reports (people, equipment, activities....)
  - Most important person: project officer (!)  
[REDACTED] keep him/her updated, involved in progress and difficulties in time
  - Keep the deadlines – arrange your own ones (as a coordinator)!
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- Webpage !
  - Dissemination!



DOTSENSE

# Organization of Work Packages and Consortium

Walter Schottky Institut, Technische Universität München, Germany (Coordinator) (WSI)  
(Prof. M. Stutzmann, F. Furtmayr)

- Project coordination
- Processing and characterization of DOTSENSE transducers
- Growth and characterization of InGaN nanodiscs inserted in GaN NWs

Electron Microscopy Lab, Dep. of Physics, Aristotle University of Thessaloniki, Greece (AUTH)  
(Prof. Philomela Komninou)

- Structural analysis of QDs and NDs by transmission electron microscopy
- Modelling of atomic structure, energy of defects and interfaces based on experimental results
- Quantitative comparison

Laboratory for Nanophysics and Semiconductors, CEA, Grenoble, France (CEA) (Dr. E. Monroy)

- Growth and characterization of InGaN QDs on polar surfaces and surfaces with reduced electric fields
- Structural characterization of QDs

EADS Innovation Works, Dept. Sensors, Electronics & Systems Integration, Ottobrunn, Germany (EADS-IW)  
(Dr. A. Friedberger, Dr. A. Helwig)

- Specification of DOTSENSE devices for target application
- Planning, realization and testing of demonstrators
- Exploitation

I. Physikalisches Institut, Justus-Liebig-Universität Gießen, Germany (JLU) (Prof. M. Eickhoff, Dr. J. Teubert)

- Luminescence characterization of InGaN QDs and NDs
- Processing and characterization of DOTSENSE transducers
- Investigation of PL properties in electric fields

