Forthcoming EU calls in Photonics

Ronan Burgess

Photonics Unit,

European Commission

Overview

- **Photonics in 2009-2010**
- **ERA-NET Plus – Next Gen Broadband**
- **Photonics in 2011-2012**

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- *Photonics in 2009-2010*
- **ERA-NET Plus – Next Gen Broadband**
- **Photonics in 2011-2012**

European Commission
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Photonics in the European Research Programme

- Dedicated Photonics 2009-2010 - 90M€

  Call-4 (1 April 2009) Organic and disruptive photonics : 30 M€

  Research between proof-of-principle and mainstream industrial roadmap

  Call-5 (3 November 2009) Photonics (Applications) : 60 M€

  Application driven, focus on areas where Europe is strong

- Other Areas
  - Flexible, Organic and Large Area Electronics 60 M€
  - Network of the Future 110 M€ + 80 M€

Objective ICT-2009.3.7
Photonics

- Call-5 open/close:
  - 31 July 2009 – 3 November 2009
- Funding Schemes (objective dependent):
  - IP, STREP = 47 M€
  - CA, SA = 3 M€
- Budget flexibility (funding schemes)
  - min 23.5 M€ IP
  - min 15.7 M€ STREP
  - max 3 M€ CSA

3.7 Objectives: Overview

a)

- Communications
- Light Sources
- Bio-Photonics
- Imaging
- High-Power Lasers

b)

- III-V Foundry

c)

- ERA-NET Plus

Closed 1 call 4

d)

- SME & researchers
- International Coop.
- Education

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3.7 General Issues

- addresses **Photonics technologies**, **components** and **(sub)systems** (innovative devices)
- driven by key applications/social needs
- **cost-effective** (context dependent)
- from advanced research opening new opportunities to application-driven research with a view to industrialisation
- priority given to novel or "**breakthrough**" approaches rather than incremental developments
- system **integration** (where meaningful) including electronics/photonics integration (photonics on silicon)
- reduction of **power consumption** per circuit / function

3.7 a) Photonic Components & Subsystems

1) Communications

IP, STREP

- future-proof networks, any part of network (incl. interconnects), integration, more bits/photon, higher functionality, reduced network complexity ...

Complementary to **Objective ICT-2009-1.1** The Network of the Future

c) Ultra high capacity optical transport/access networks

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3.7 a) Photonic Components & Subsystems

IP, STREP

2) Lighting and Light Sources

- high efficiency, color spectrum, LEDs, for lighting / illumination
- solid-state laser sources for projectors, displays, ...

3.7 a) Photonic Components & Subsystems

3) Bio-photonics

STREP

- molecular/functional imaging
- minimally-invasive/point of care treatment & monitoring

3.7 a) Photonic Components & Subsystems

STREP

4) Cost-effective high-performance imaging for safety & security

- CMOS, single-photon, video-rate, uncooled
- multi-feature, smart pixel arrays, multi-spectral, sub-ps timing precision, on chip-pre-processing

3.7 a) Photonic Components & Subsystems

STREP

5) Highly integrated components for high power lasers

- fibres & fibre lasers with integrated functions
- diode lasers with new functions

3.7 b) III-V foundry processes

IP

- **Cost-effective** versatile foundry processes
- for photonic integrated components based on **III-V semiconductors (**possibly combined with other materials)
- can include module integration & packaging (where necessary)
- **design/process** interface based on widely agreed concepts / **standards**
- design supported by design-rule & **library** based platforms

3.7 d) Coordination and support actions

CSA

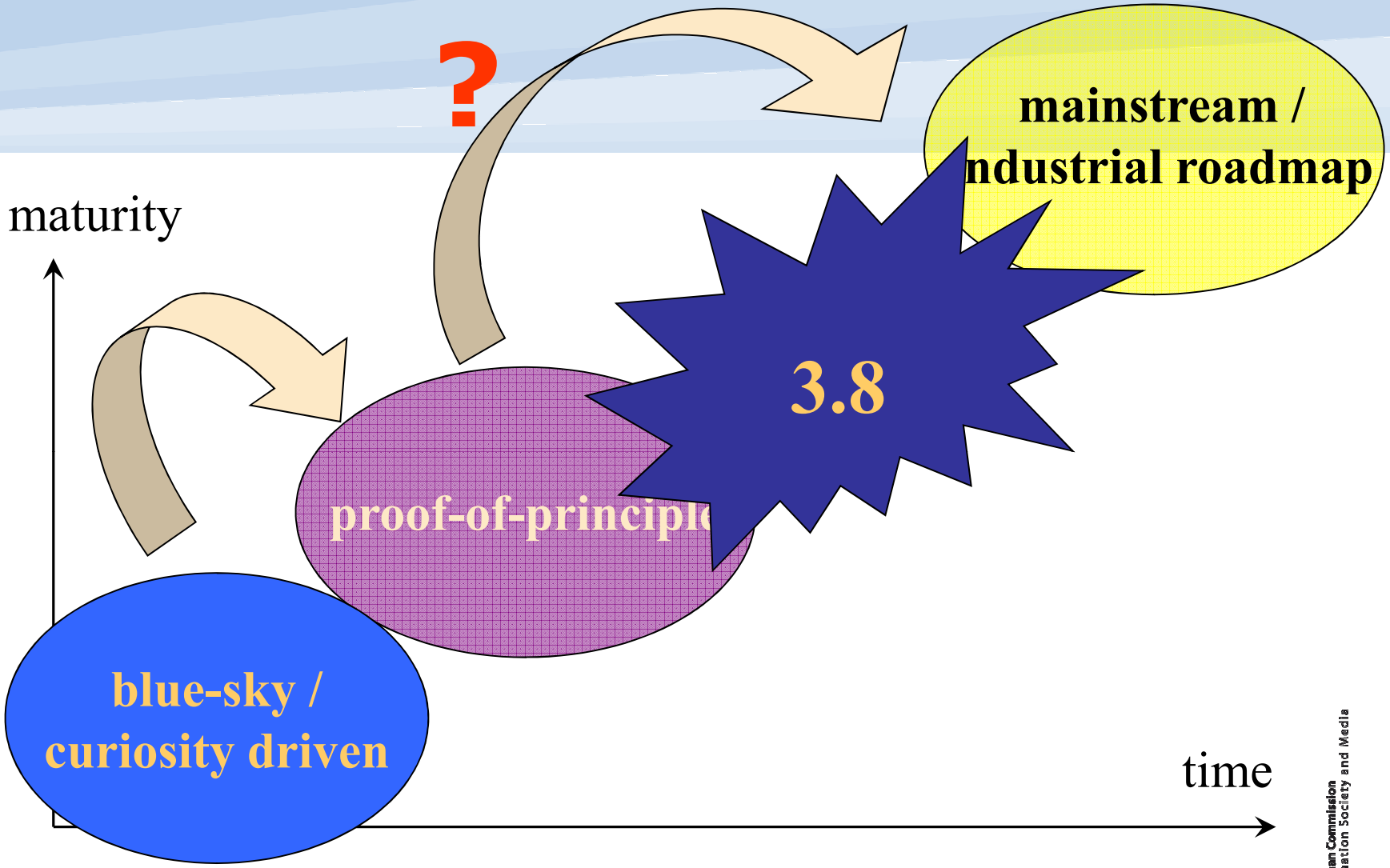
- **SME & researchers support**
  - access to photonics technology & design expertise
  - access to prototype components & manufacturing facilities
- **International cooperation**
  - procedures to measure LED/OLED lighting performances
  - exchange of best practices from deployment of mature LED/OLED
  - development of LED/OLED lighting standards
  - workshops on advanced photonics research topics, research roadmaps
- **Education and training** (excludes direct support of conferences)
  - secondary school level outreach activities to encourage interest in photonics
  - transnational third level education programmes in photonics

- Background document will be available by the time of the call

Objective ICT-2009.3.8
Organic photonics and other disruptive photonics technologies

- Call-4, **closed on 01 April 2009**
- Budget 30 M€
- Research subjects
  - OLEDs
  - Organic photovoltaics
  - Organic guiding structures sensors, lasers, amplifiers
  - Disruptive photonics technologies for transition from advanced research to industrial technologies

3.8 Positioning



Objective ICT-2009.1.1
The Network of the Future

- Call-5 open/close:
  - 31 July 2009 – 3 November 2009
- Funding
  - 80 M€

The Network of the Future

a) Future internet achitectures and network technologies

- Novel internet architectures and technologies

b) Spectrum-efficient radio access to Future Networks

c) Converged Infrastructures in support of Future Networks

- Ultra high capacity optical transport/access networks

The Network of the Future

- Ultra high capacity optical transport/access networks

Based on state-of-the-art photonics with transparent core-access integration, optical flow/packet transport, dynamic wavelength allocation, overcoming limitations of segmentation access, metro and core n/ws, lower cost, energy efficient….

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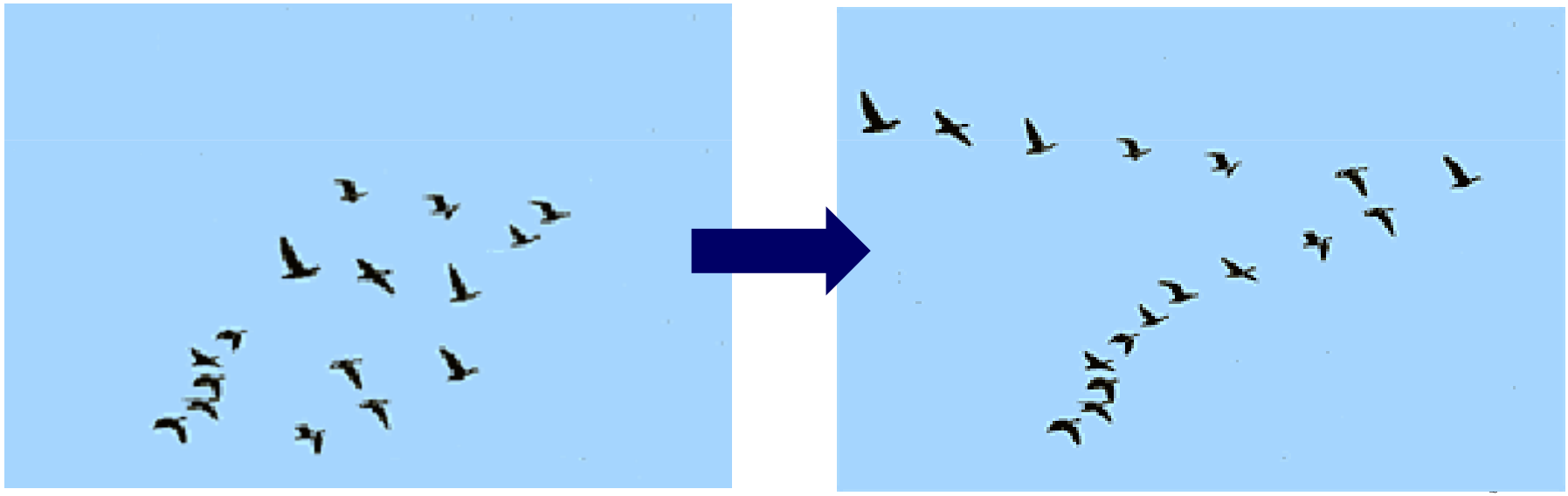
ERA-NET Plus
Link between European and National level

Must use these sources of funding effectively!

Nature shows us the way: Birds coordinating their efforts



71 % gain of efficiency

ERA-NET Plus
Joint Funding of Photonics research

ERA-NET Plus

- Creates a common pot of money to fund research
- 2/3 from participating States, 1/3 from EU
- Minimum of 5 States must participate.
- A single call for proposals
- Topic will be Next Generation Broadband
- Total funding 30 m€ - 20 m€ from participating Member States and 10 m€ from EU

ERA-NET
Plus Joint Funding of Photonics research

ERA-NET Plus

Targeted Results

- Coordinate by working together.
- Pool EU and national resources on strategic topics.
- Encourage dedication of national funding for photonics
- If successful, could be a essential step towards future joined funding activities.

ERA-NET Plus – What does it mean for you?

- Single call of €30 million on focussed topic of strategic importance
- National rules apply – eligibility and reimbursement of costs
- More flexible than usual EU project – trans-national (minimum 2 countries)
- Two stage evaluation

Photonics21 Mirror Group

- Chaired by European Commission
- 15 Member States represented by those responsible for funding photonics nationally
- Meet regularly to discuss photonics, promoting and coordinating.
- ERA-NET Plus is an initiative from the Mirror Group, being pioneered in photonics

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Photonics in 2011-2012
ICT Workprogramme timing

Framework Programme 7 (2007-13)

Framework Programme 8

WP 2009-10	WP 2011-12	WP 2013
Finalised now. Some additions to WP 2010 for PPPs.	***Discussions start now. Finalised mid-2010.***	

JTIs **PPPs** Future directions

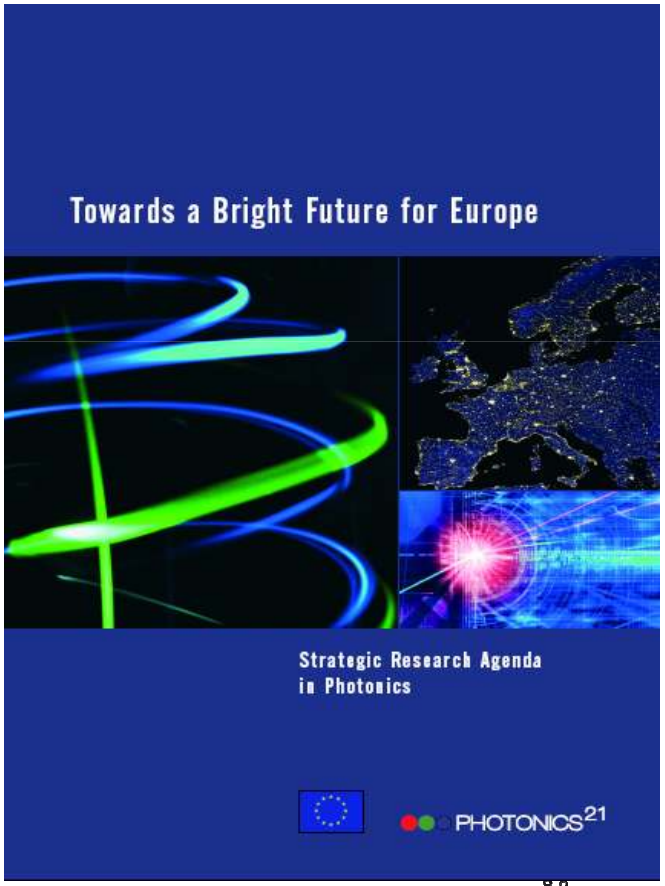
ETP Photonics21

The Photonics21 European Technology Platform (ETP) is a European membership association.

The objectives of Photonics21:

- **Join forces and align efforts in Photonics R&D in Europe to transform knowledge into leading-edge products**
- **Define a common medium to long-term research strategy for Europe**
- **Make policy makers aware of the promise and potential impact of Photonics on European economy and society**

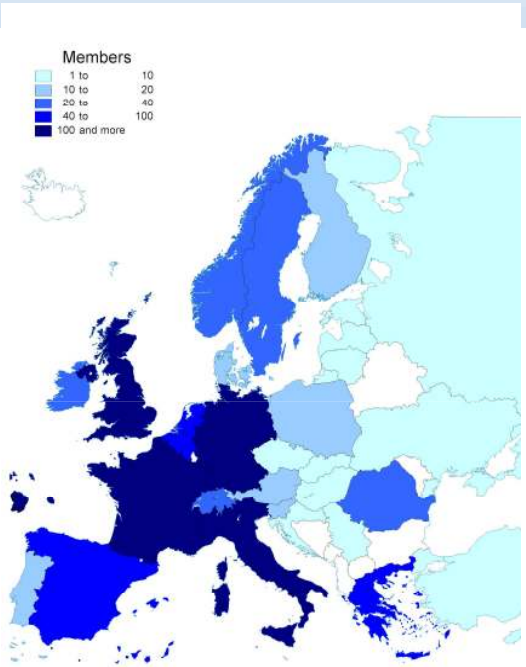
- **New SRA by January 2010!!!**
- **Ph21 SRA main input into WP 2010-2011**

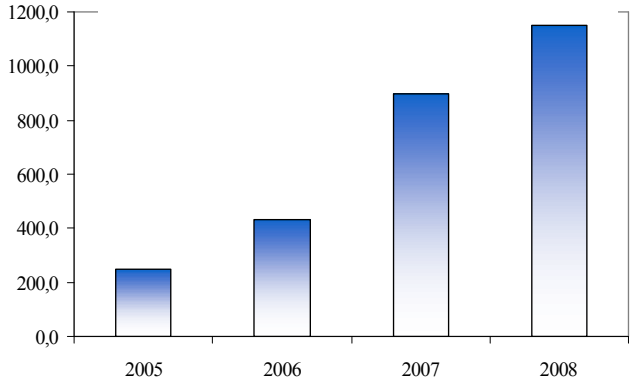


Photonics21Strategic Reserach Agenda published in April 2006

Photonics21 membership

- Approximately 1400 members
  - Industry: 43%
    (33% SME, 10% large companies)
  - Research affiliations: 47%
  - Associations: 6%
  - Other:4%
- About 110 members are holding positions as CEO, CTO, President or Director of European Photonics companies.
- Many members from academia are heading internationally renowned research affiliations





Partnership

Partnership between the photonics industry, research and academic players and the funding bodies.

Where to find more

Photonics unit at European Commission:

cordis.europa.eu/photonics/

E-mail:

Ronan.Burgess@ec.europe.eu

Newsletter:

INFSO-PHOTONICS@ec.europe.eu

Workprogramme 2009-10:

Cordis.europa.eu/fp7/ict

Photonics21 :

www.photonics21.org