

9th European Computer Science Summit

8 October 2013, Amsterdam



Innovation in

Informatics:

The Horizon 2020 Perspective

Carl-Christian Buhr

EnviroInfo 2013

2 September 2013, Hamburg

Cross-cutting Informatics in Horizon 2020



Carl-Christian Buhr



<http://slidesha.re/H2020> ECSS2013

<http://slidesha.re/envIro>



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(...but I am speaking in a personal capacity.)

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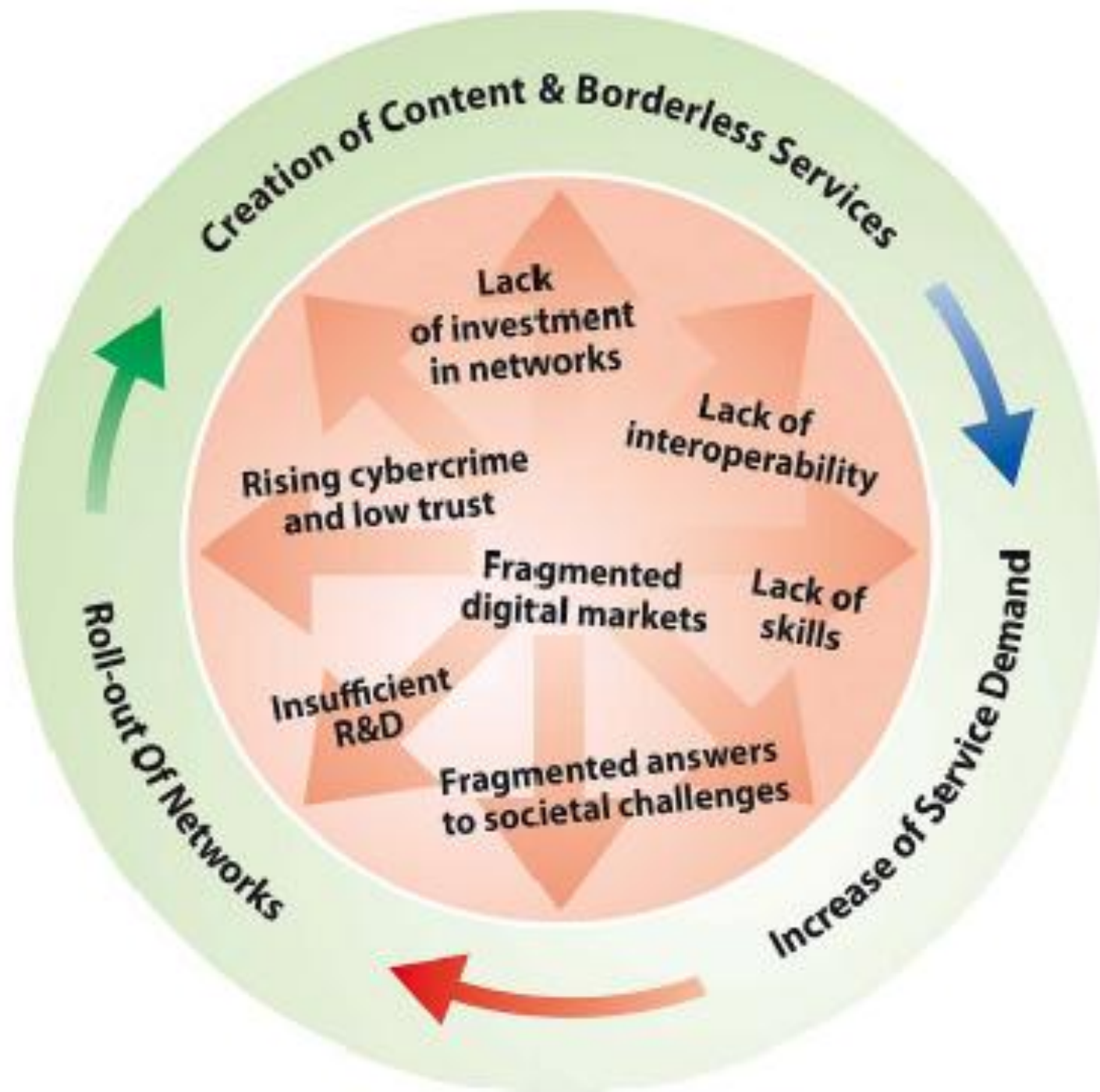
http://ec.europa.eu/commission_2010-2014/

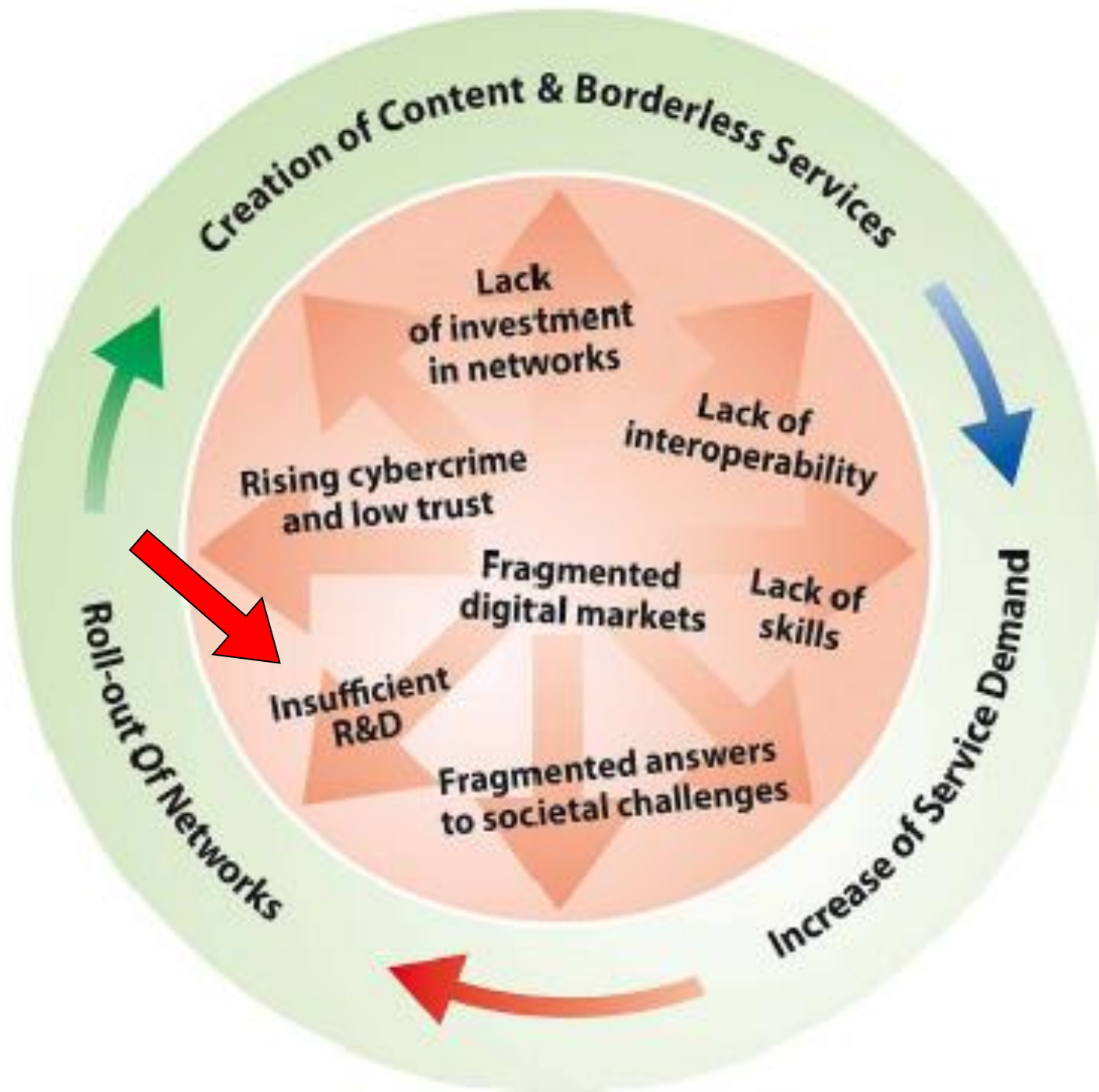
Digital Agenda

1001100101011101110000100 **2010-2020**

for Europe

<http://ec.europa.eu/digital-agenda>





DIGITAL AGENDA FOR EUROPE

A Europe 2020 Initiative

[Europe](#) > [Our Targets](#) > [Scoreboard](#) > [Progress by Target](#)

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Pillar 5: Research and innovation

Europe continues to under-invest in ICT research and development, investing less than other industrialised economies.

Main Actions:

More ICT R&D&I

More pooling of resources

HORIZON 2020



3 pillars:

1. Excellence

2. Competitiveness

3. Societal Challenges

Health, Transport,
Energy, Food, Climate,
Innovation & Reflection
& Inclusion, Security

...now agreed in Parliament and Council

European Parliament



<http://europarl.europa.eu/>

Council of the European Union



<http://consilium.europa.eu/>



including the Budget...

~ EUR 77bn
2014-2020

Innovation instruments

- Continue former ICT Policy support programme (part of the CIP, Competitiveness and Innovation Programme)
- Open disruptive innovation scheme ~ 5%
- Inducement prizes
- Simpler entry/exit depending on success
- Better connections between R&I, between technology-driven and application-driven approaches
- PPPs to cover innovation projects

ICT R&I Support – Upcoming priority areas

Future Enabling Technologies (incl. FET
Flagships Graphene & Human Brain Project)

Key Enabling Technologies (e.g.
semiconductors, photonics, embedded
systems)

Data & Content Technologies

Applied ICT Research

Horizontal Enablers

1. High-performance computing
2. Open Science (Infrastructures and Open Access)
3. Open Data

1. High-Performance Computing



EUROPEAN COMMISSION

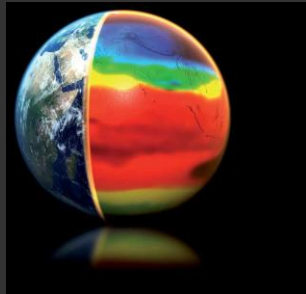
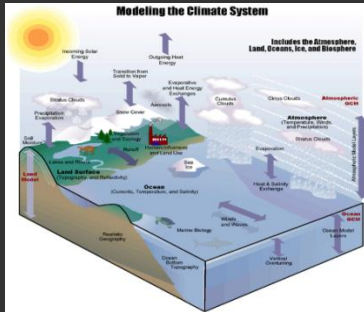
Brussels, 15.2.2012
COM(2012) 45 final

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

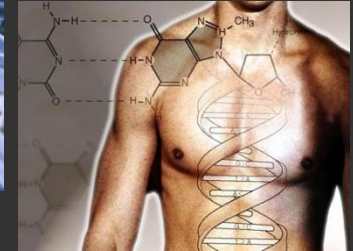
High-Performance Computing: Europe's place in a Global Race

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/12/139>

Why 's HPC on the Agenda ?

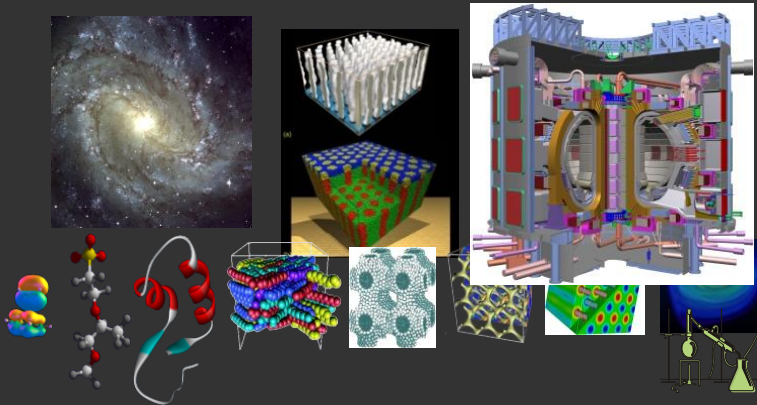


Weather, Climate & Earth Sciences

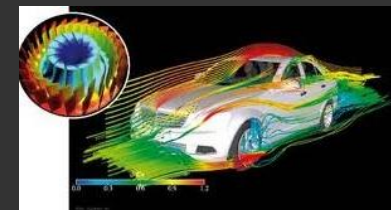
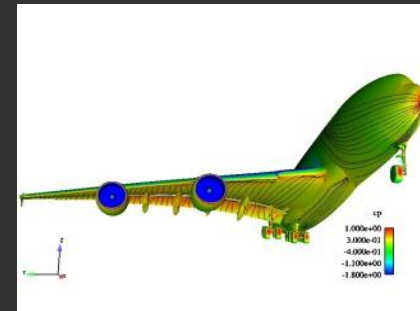


Life
Sciences and Health

Industrial & Engineering
Application for
transport
and energy



Fundamental sciences: Physics,
Chemistry, Material Sciences,
Astrophysics Applications.



HPC in Europe: Potentials

- Applications and codes
- Deep, diverse HPC user experience and leading capabilities in
power-efficient microelectronics
processor designs
interconnects and mass storage systems
(sub)system integration software tools
- Potential openness and knowledge transfer to industry not yet exploited

HPC in Europe: Problems

- EU lost 10% HPC capabilities 2007–2009
- Japan overtook EU-27 in capacity
- Fragmentation of EU efforts across MS
- High reliance on foreign components
- European IPR benefiting others

Key Policy Actions

- Governance at EU level: Industrial Technology Platform, PRACE and centres of excellence
- Double HPC investment (MS, EU, industry)
- Tools: Resource pooling and pre-commercial procurement

2. Open Science

July 2012

**Commission Communication
& Recommendation to MS
on Scientific Information
[in H2020 and beyond]**

Open Access Goals

2014: OA policies in all MS

2016: 60% OA in Europe

2014–2020: H2020 100% OA

What's planned



Green
&
Gold

Accepted Embargo
6/12 months



&

Data Pilot

(everywhere where it makes sense)

Image Credits

Green: <http://www.flickr.com/photos/spool32/4633177036/>
Gold: <http://www.flickr.com/photos/27117418@N07/2557960827/>

Now it's the
infrastructure, stupid

Riding the wave

How Europe can gain from the rising tide of scientific data

**Final report of the High Level Expert Group on Scientific Data
A submission to the European Commission**

October 2010

[http://bit.ly/riding the wave](http://bit.ly/riding_the_wave)

"the data themselves become the infrastructure".

Knowledge without Borders

**GÉANT 2020 as the
European Communications Commons**

<http://bit.ly/geantEG>

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Open Access Infrastructure for Research in Europe

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Seizing the Opportunity for Open Access to European Research - Ghent Declaration

13 FEBRUARY 2011

The Ghent Declaration, an initiative of the reviewers of the OpenAIRE project, was submitted to Neelie Kroes, Vice-President of the European



Latest News

Spanish national Thesis mandate

11/02/2011

A Royal Decree-Law has been released in which, according with its article 14.5.: Spanish

OpenAIRE

<http://www.openaire.eu>

3. Open Data



What is Open Data?

1. bulk download for free
2. reuse rights (incl.
Commercial)

Why do we care?

Computers

Internet

Automation

= Open Data possible &
useful

Data is already paid



Transparency



Image credit: <http://archrecord.construction.com/projects/portfolio/archives/0811kanagawa-1.asp>

Valuable economic raw material



Pointers

The Digital Agenda for Europe

<http://ec.europa.eu/digital-agenda>

Neelie Kroes ICT Innovation Speech(15/02/2012)

[http://europa.eu/rapid/press-release SPEECH-12-636 en.htm](http://europa.eu/rapid/press-release_SPEECH-12-636_en.htm)

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GÉANT Expert Group, Report “Knowledge without Borders”

<http://bit.ly/geantEG>

Open Data

<http://ec.europa.eu/digital-agenda/en/open-data-0>

Horizon 2020

<http://ec.europa.eu/research/horizon2020/>

Contacts

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