

SIG FUTURE COMPUTER & NETWORK SYSTEMS

FUTURE COMPUTER SYSTEMS AND NETWORKING RESEARCH IN THE NETHERLANDS: A MANIFESTO

April 7,
2022

bit.ly/ManifestoCompSysNL



Many thanks to all our collaborators.



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dr. Paola
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WHY THIS SESSION?
TO ENGAGE WITH YOU
ON THE FUTURE OF
COMPUTER SYSTEMS
AND NETWORKING
RESEARCH IN NL

1

GOLDEN AGE OF COMPUTER SYSTEMS WITH SOCIETAL IMPACT

2

THIS IS THE GOLDEN AGE OF MASSIVE COMPUTER ECOSYSTEMS



Education for
Everyone (Online)



Business
Services



Big Data

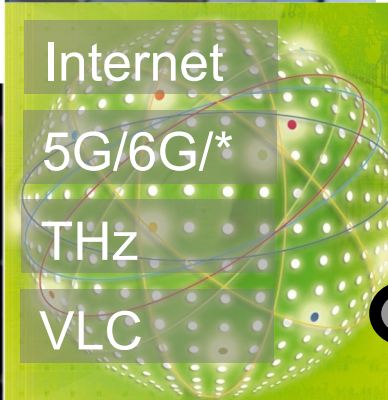
Edge
Computing



Cloud
Computing



Big Science

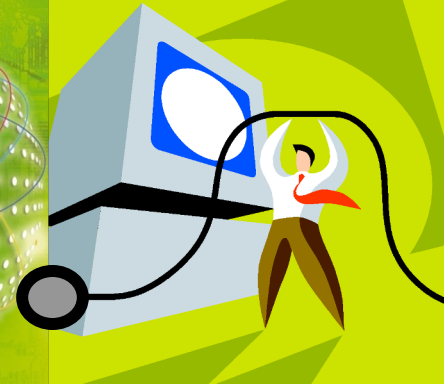


Internet

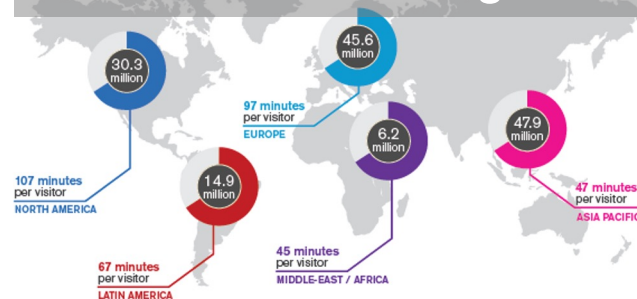
5G/6G/*

THz

VLC

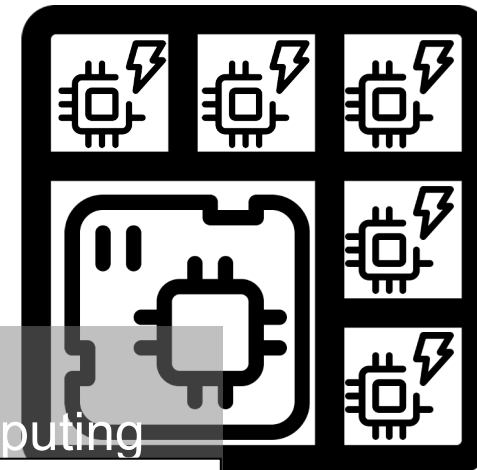


Online Gaming



Datacenter

Grid
Computing



Daily Life



Iosup et al., Massivizing Computer Systems, ICDCS 2018. [\[Online\]](#)

Hesselman, Grosso, Kuipers, et al. (2020) A Responsible Internet to increase Trust in the Digital World. JNSM [\[Online\]](#)

THIS IS THE GOLDEN AGE OF MASSIVE COMPUTER ECOSYSTEMS

ECONOMY AND SOCIETY
ARE BUILT ON DIGITAL

€460 MLD
DIGITAL VALUE

3,3 MLN
JOBS CREATED
56%
JOB GROWTH
2019-2024



DIVERSE SERVICES FOR ALL

Impacting >60% of
the NL GDP (1 trillion EUR/y)

EVERY €1 → €15 ADDED VALUE

Attracting >20% of
all foreign direct investments in NL

Sources: Dutch Data Center Association, 2020 [[Online](#)]
Growth: NL Gov't, Flexera, Binx 2020. Gartner 2019. IA 2017.

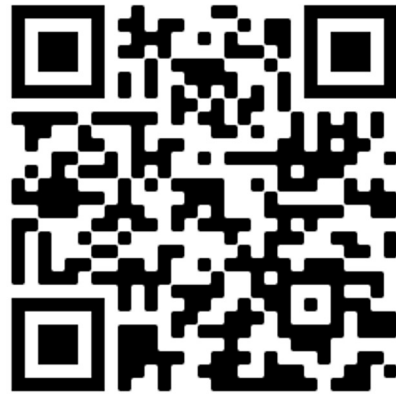
WHY A NEW MANIFESTO?

(on Future Computer and Network Systems)

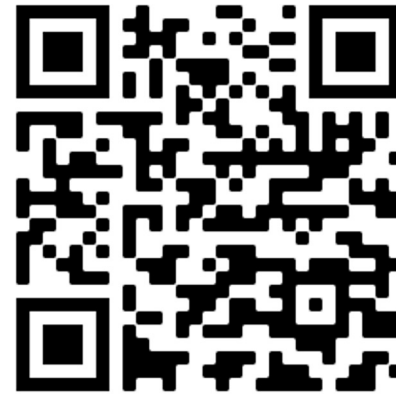
3



Executive
Summary



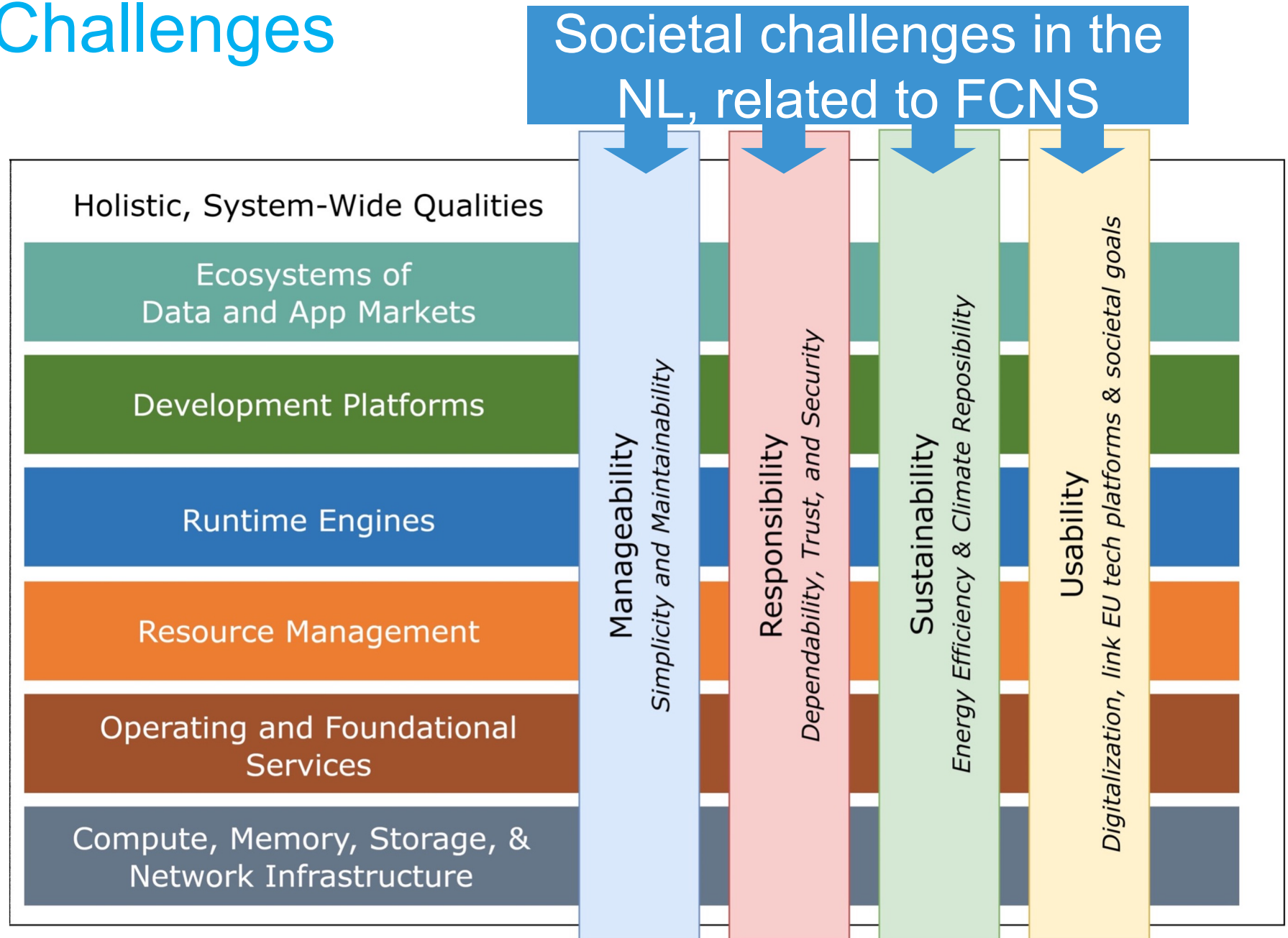
Map &
Who's Who?



Full
Document

Grand Challenges

We need to address the challenges across the entire stack



WHO ARE WE?

A LARGE

COMMUNITY OF EXPERTS

WHAT WE DO?

ENLARGE THE COMMUNITY,

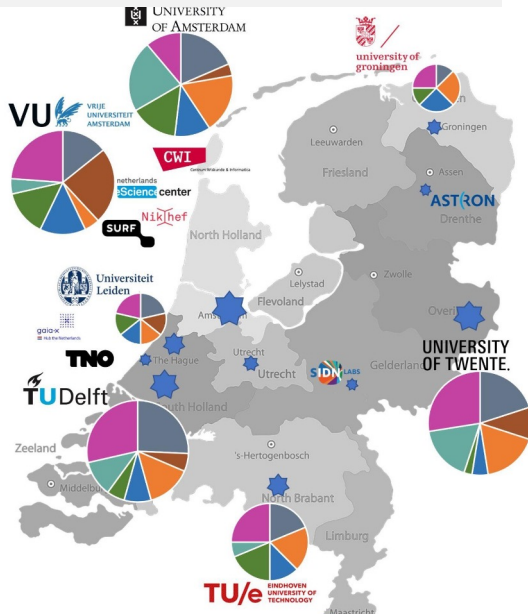
DEVELOP JUNIORS, POSITION

OUR RESEARCH, ETC.

4

THE NETHERLANDS → MANIFESTO → FCNS → EUROPE

The Netherlands



Join us!

Stakeholders

SURF

NLeSC

Gaia-X

NIKHEF

CWI

ASTRON

+ more

Universities

Amsterdam

Delft

Eindhoven

Groningen

Leiden

Twente

>15 institutions
>50 co-signatories
>100 PhD students

Europe



To develop
together the
EU digital infrastructure!

SIG FCNS: We Work Together!



CompSys
NL



IPN Menu ☰



SIG FCNS: WHAT CAN WE DO TOGETHER? HOW?

10+ MOST INFLUENTIAL SOCIETAL
IMPACT FROM OUR WORK

YOUR IDEA
HERE

← **CompSys** →
NL

JOINT
NETWORKS

JOINT RESEARCH IDEAS

CONTACT US,
AT [ICT.OPEN](https://ict.open.ac.uk)
OR LATER

WHAT ARE THE ACTIONABLE INSIGHTS?

10 RECOMMENDATIONS

5

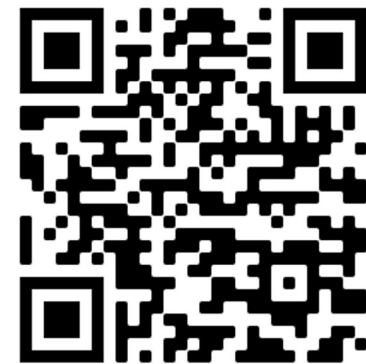
10 RECOMMENDATIONS FROM THE COMPSYSNL MANIFESTO



1. Invest in personnel for holistic CompSys research
2. Establish and maintain a coalition for CompSys
3. Invest in CompSys infrastructure for research, demonstrations, proof-of-concepts, and pilots
4. Recognize and fund cross-disciplinary translational CompSys research and open ICT science.
5. Harmonize the national curriculum on CompSys topics, to the extent possible
6. Extend CompSys education and training to all levels of our society. Be inclusive.
7. Link investment in research to hiring from under-represented groups, to foster diversity
8. Ensure alignment with and integration into EU technology platforms and societal goals
9. Introduce an ICT plan in NWO proposals that rely for their success on ICT infrastructure
10. Align strategic investments in computing in the Netherlands

Let's discuss!

TAKE-HOME MESSAGE



Executive
Summary

The CompSysNL
Manifesto is timely.
SIG IPN is a good team,
& welcome
collaboration

!

Want to
know more?
Let's talk!

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