



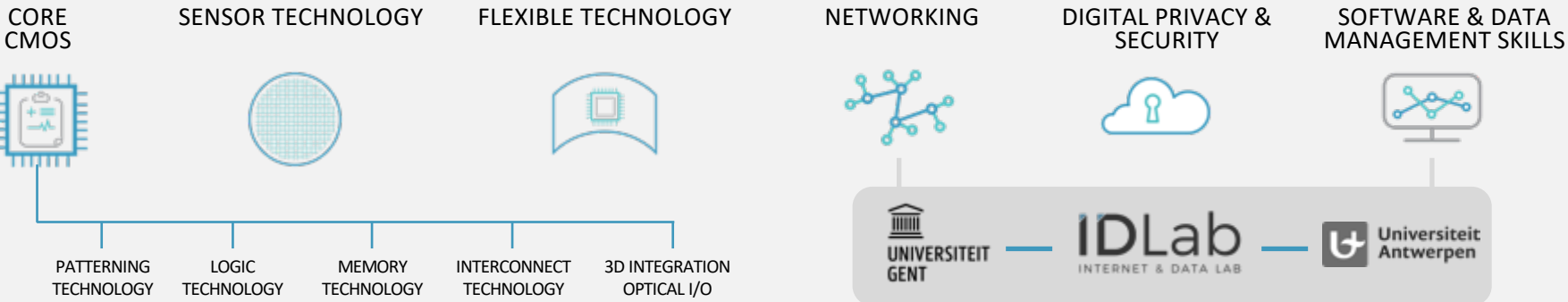
imec is the world-leading R&D and innovation hub in nanoelectronics and digital technology.

Centralized team in Leuven (BE) & Eindhoven (NL)

Embedded within universities

SEMICONDUCTOR & SYSTEM TECHNOLOGIES

DIGITAL TECHNOLOGY PLATFORMS



SMART HEALTH

SMART MOBILITY

SMART CITIES

SMART INDUSTRIES

SMART ENERGY



UNIQUE TEST INFRASTRUCTURE

FROM LAB TO VARIOUS REAL-LIFE ENVIRONMENTS



Wireless Lab

66x20 m²: 120 wireless, 20 mobile nodes + SDR, sensors
LTE + 44 nodes in datacenter



GPU Lab

AI/ML experiments
140 GPU's
570.000 cuda cores
1.8TB GPU RAM
100GB/S infiniband



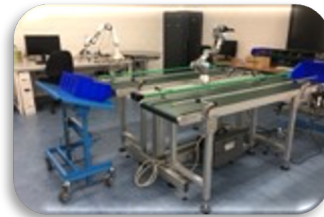
C

400+ bare metal servers
Flexible network topology 1-10 Gb/s



Office Lab

120 nodes
3 floors of office building



Industrial IoT

Flexible factory Environment
UWB localization
Drones/AGVs
Conveyor belts



5G

USRP x310
Benetel Radio Unit
4G modem
Power unit
Processing unit

10 Gbps Fiber interconnects



City Lab

Wireless testbed
City of Antwerp



Smart Highway

30 km rollout of LTE-V and IEEE 802.11p
SDR-based CloudRAN



H

Flexible home environment

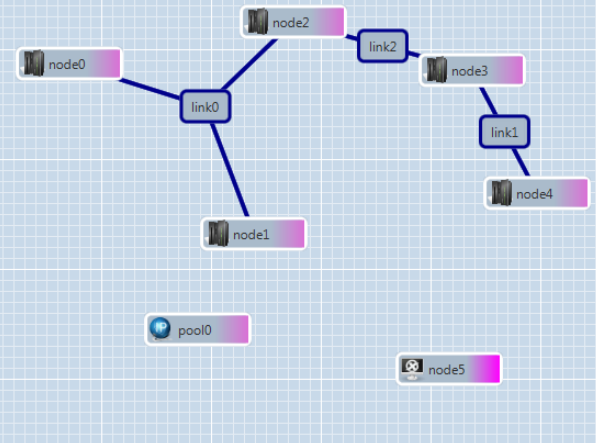
jFed Experimenter Toolkit

General | Topology Editor | RSpec Editor | Timeline Editor

Run | Reserve | Save | Copy | Paste | Duplicate | Auto Layout | Zoom In | Zoom Out | Reset Zoom

Resources

- Generic Node | Physical Node
- Virtual Machine | XEN VM
- OpenVZ VM | Wireless Node
- Physical Router | Gateway
- Programmable Switching Device | Dedicated Ext. Network Connection



Click and drag the circle to a target node to create a new link.



Properties of node1

General | Bash scripts | Interface node1/40 | Interface node1/11

Node name: node1

Select testbed: jmes Virtual Wall 2

Health: 90%

Free Bare Metal: 103 of 321

Free IPv4: 31 of 53

Maintenance: None planned

Info:

- Testbed info
- Testbed documentation
- Hardware info

Health updated 3m 1min ago
Counts updated 1 min ago

Disk image: [+]

Node:

- Any available node
- Specific node

Specific hardware type:

SWTCHPORT	
gpcnode	0/0
CPU:Power Gen. 1	
gpcnode2	3/36
CPU:Power Gen. 2	
gpcnode3	3/6
CPU:Power Gen. 3	

+100 



IoT
Sensor data

Edge processing/filtering



Cloud infrastructure



WiFi Mobility



ML Algorithm @ GPULab

Anomaly detection on
sensor data

Video processing on
mobile camera feed

IMEC CAN HELP YOU



From the very beginning...



...All the way to the end

Feasibility
study

Rapid
prototyping

Product
design

Product
customization

Testing &
benchmarking

Troubleshooting

UNIQUE OFFERING:
EXPERT KNOWLEDGE + LARGE-SCALE TEST FACILITIES



VLAANDEREN
INDUSTRIE 4.0

Industrie 4.0-proeftuin

Smart Connectivity



IMEC WIRELESS TESTBED

