

Hi! We're Citymesh

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Market Manager



9001, 27001



A Cegeka
Company

DIGI

4th Belgian
Telecom
Operator

4/5G

European
Leader

1500

Clients with
critical business
operations

We are the change connectivity needs.

Born and raised in B2B connectivity, we combine innovation, expertise, and great talent into (mobile) connectivity solutions that will make both your business and society grow. 0G to 5G.

And yes, we are here to shake things up!



 **CITYMESH**
connecting opportunities

from 0G to 5G

We are the change
the connectivity needs

Infra



Wifi
Networks



Mobile
Private
Networks
4G/5G



SigFox
IoT
Networks



Belgium Mobile Operators
proximus orange™ telenet

DIGI

Tech

Wi-Fi

Private
4G/5G

IoT

Public 4G/5G

Fixed

 CITYMESH

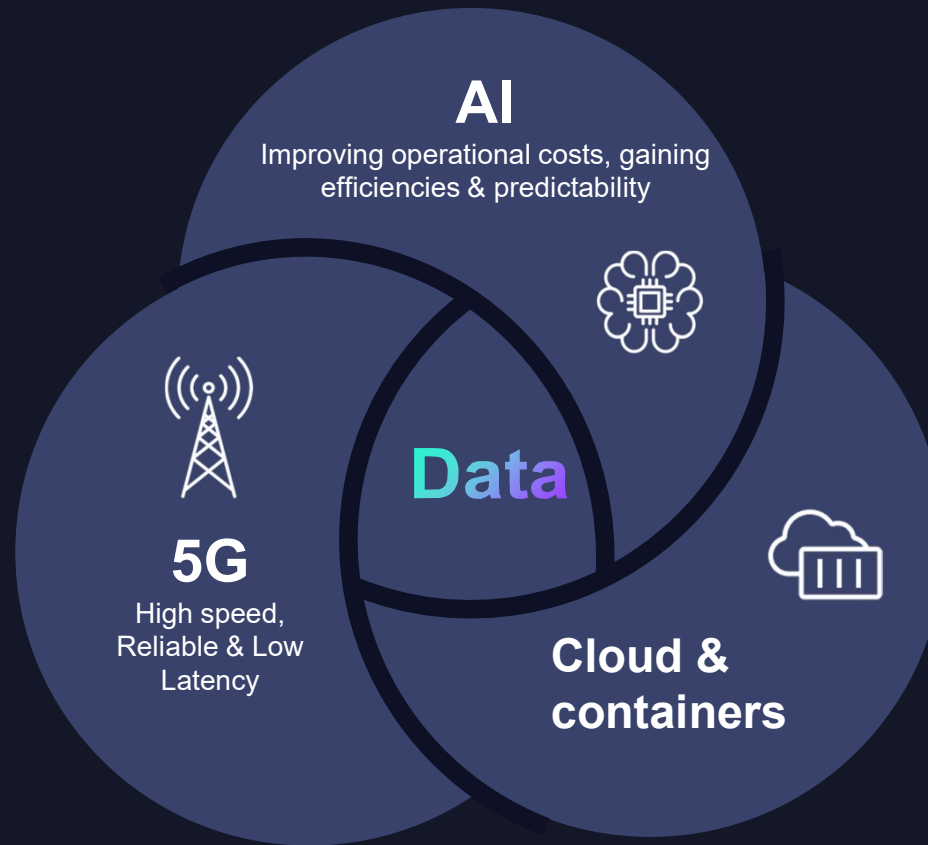
Citymesh uses belgium mobile operators for
standard connectivity, proposes custom
connectivity for better operational efficiency

DIGI

DIGI offer fixed and mobile
connectivity on its own network



The trinity of innovation. What's in it for business?



There is an **increasing pressure** for executives to



Accelerate digitization efforts

Your network infrastructure has to be ready to implement the latest technologies and devices to keep up with competition, maximise efficiency, reduce costs.



Provide flawless communications

You need secured and highly reliable, broadband wireless networks to guarantee your business continuity and mission-critical applications.



Address specific use-case needs

Both business and mission critical use-cases have different mobility requirements not fulfilled by the traditional one-size-fits-all solutions

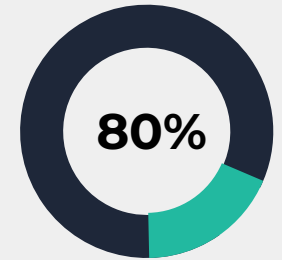
Inevitably, you have to harness the power of more advanced communication networks

Wireless communications will be **pivotal enablers** of Smart Factories, Logistics and Society 5.0.

To capitalize on 5G's market potential, technology and service providers should show how its distinctive capabilities can augment **business outcomes** of use cases in various industries.

100
billion

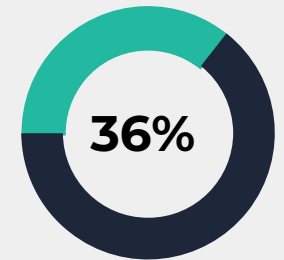
The number of IoT connected devices by 2030, a 400% growth



More than 80% of firms have been hacked with an averaged impact of 4.6 M€

€153.5
trillion

New business value that 5G is expected to create by 2030.

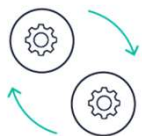


Only 36% of manufacturing realize above-average business value from IT spending in digitalization

Source:
<https://www.gartner.com/en/industries/manufacturing-digital-transformation>
<https://cfosurvey.fuqua.duke.edu/press-release/more-than-80-percent-of-firms-say-they-have-been-hacked/>

Gartner

RÉVOLUTION INDUSTRIELLE



M2M

*Scanning & wearables
Time registration
Luggage Automation
JIT - Supply Chain
Alarm & Notification*



IoT

*Air quality, temperature,
light, sound. Track & trace,
stock, footfall analytics*



AR & VR

*CCTV, AI on imaging,
AR for inspection,
Recognition*



H2M

*Picking, Wayfinding
Push to talk/video
EUD connectivity
Extended Office
Passenger connectivity
Bodycams*



Mobility

*Forklift CPE, Straddle
Carrier, HIS/LIS/RIS/LMS
Mobile cameras, First
responders, Security
comms, De-icing view*



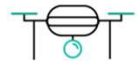
Automated
transport

*Shuttle bus
Automate vehicles
AGV, ULV
Automated delivery*



Maintenance

*Predictive mtc
Monitoring
Digital Twin
Control room*



Drones

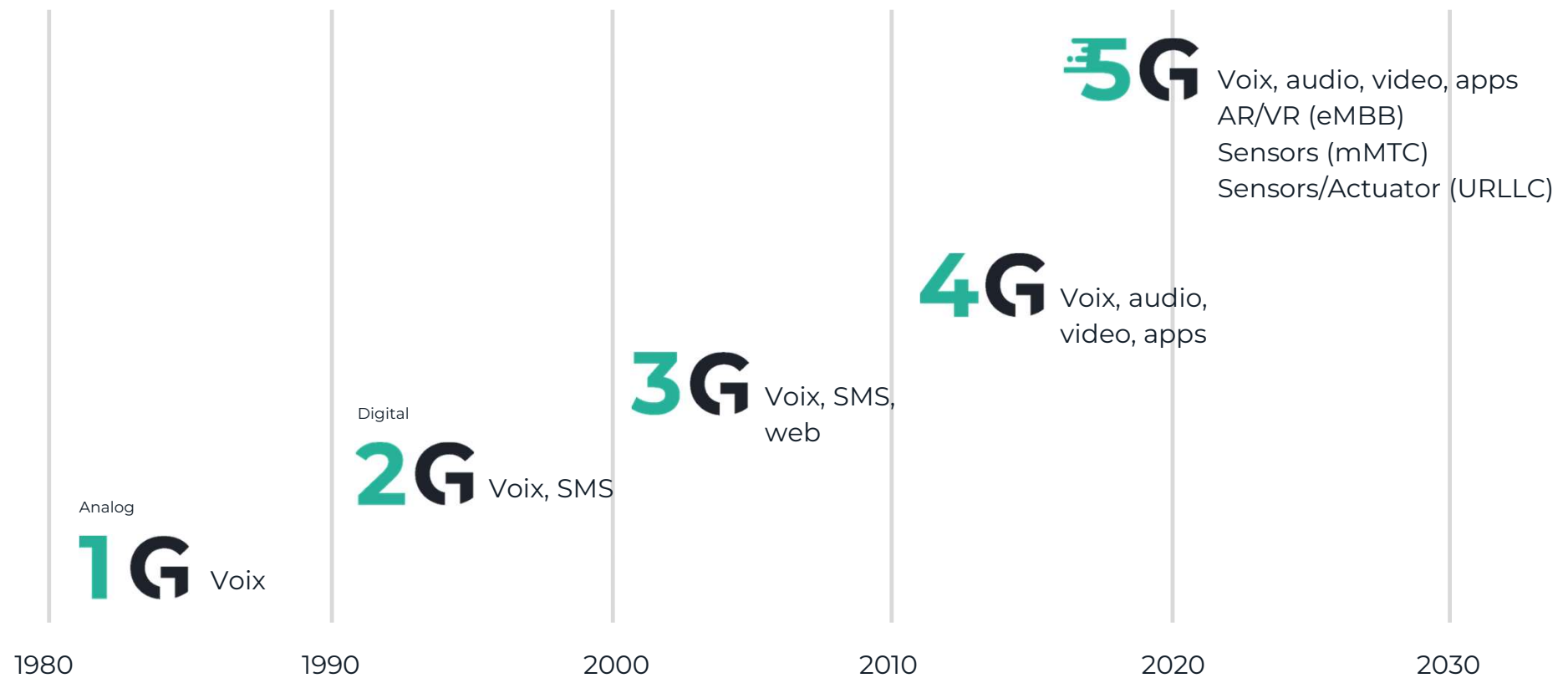
*Safety drones
Security drones
Delivery drones
Measurement drones
Anti-drone*



Robotics &
Automation

*Luggage handling
Automated inspection
Attendance registration
Track & trace
Predictive maintenance
Intelligent decisions*

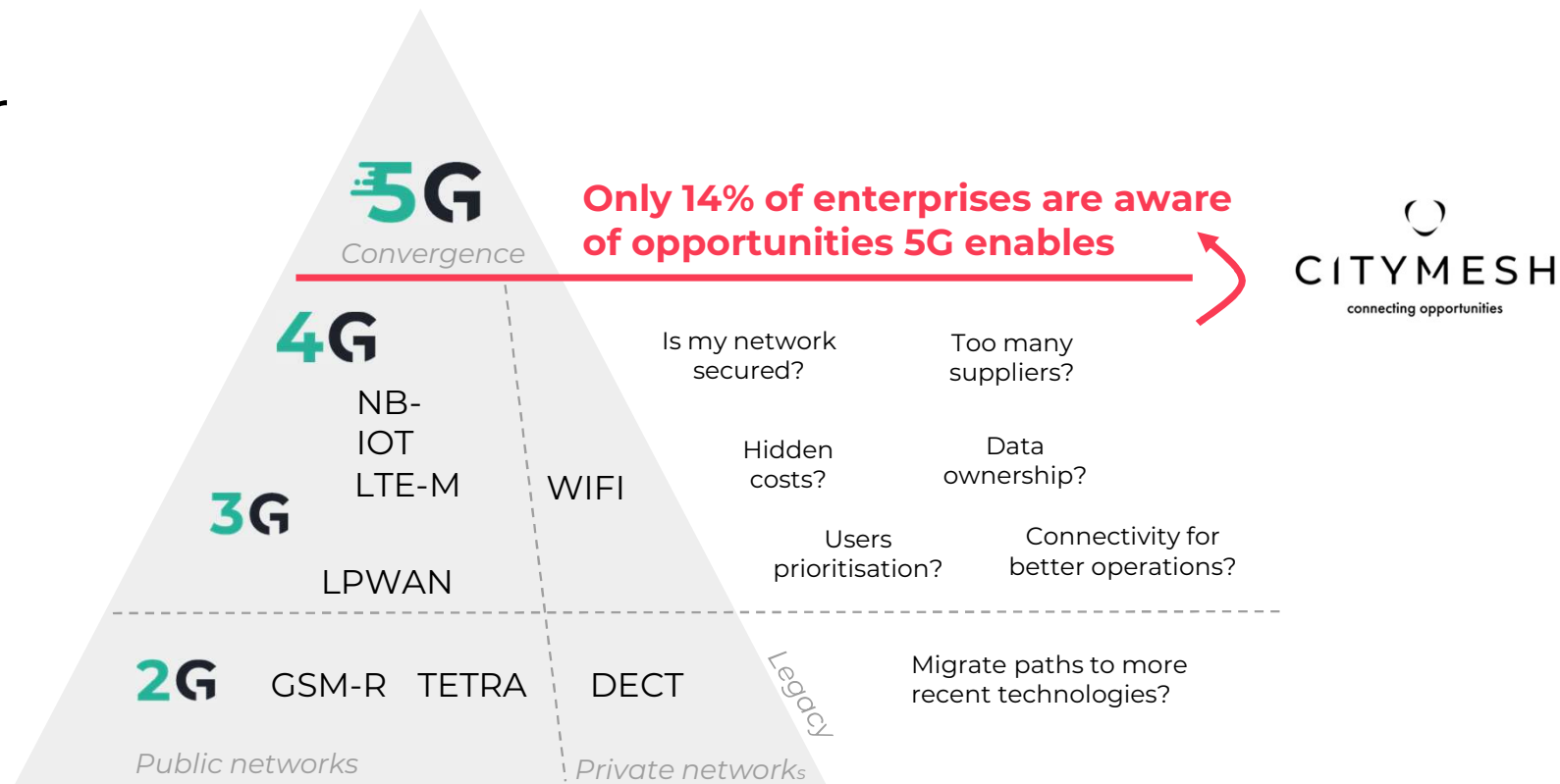
EVOLUTION DES TECHNOLOGIES CELLULAIRES



And yet, many enterprises ever discovered the business value of 5G.

There are challenges on one side and massive opportunity on the other side, but a lack of technology understanding and use cases to grasp its benefit.

The majority of enterprises are still locked with legacy technologies.



*"Powering digital transformation with Citymesh 4.9/LTE and 5G at **Brussels Airport** to realize their vision of the future is a great endorsement. Automation of airports is essential for increased efficiency, reliability and enhanced operational awareness as airports transform their business models."*

Stephan Litjens, GM, Nokia Digital Automation



5G is the only mature cellular
technology capable of addressing
(your)
industrial Revolution

Grasp the benefit of your **Mobile Private Networks**

Customer challenges

- Business / mission critical applications, prioritisation and securisation (NIS2)
- Existing connectivity limits (latency, coverage, capacity,...)
- Keep the ownership of data from connected devices
- Connect low latency devices through a reliable network

👉 “75% of Large Enterprises to Adopt Smart Intralogistics Robots by 2026”

Solution

- Pragmatic approach to design & deploy a **reliable, secured and modular** mobile private network
- Analysis of your critical applications & best wireless technology choice, ROI calculation



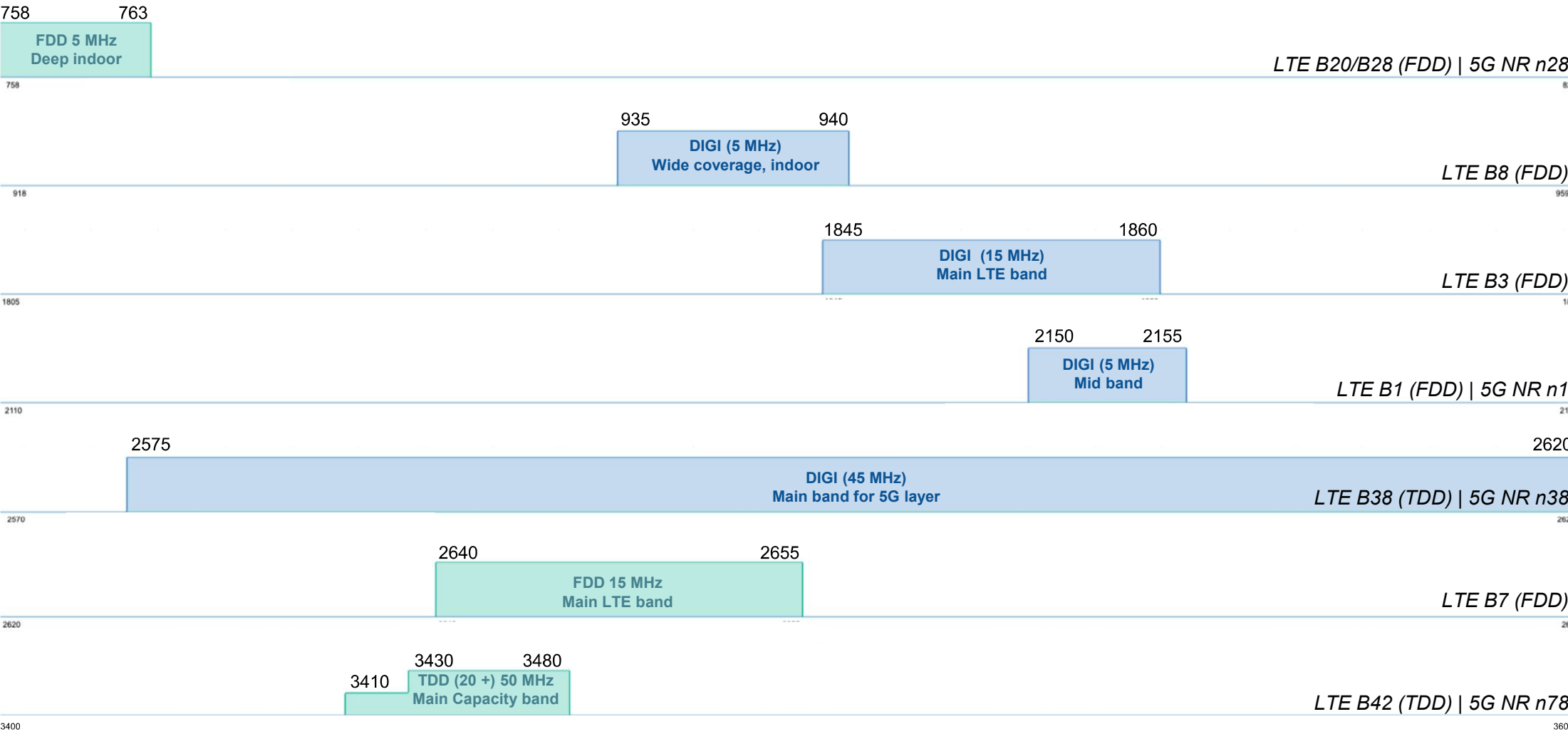
Source:
<https://www.gartner.com/en/newsroom/press-releases/2022-01-19-gartner-predicts-25-percent-of-supply-chain-decisions-will-be-made-across-intelligent-edge-ecosystems-through-2025>



70
MPNs deployed
70000
Managed WiFi APs



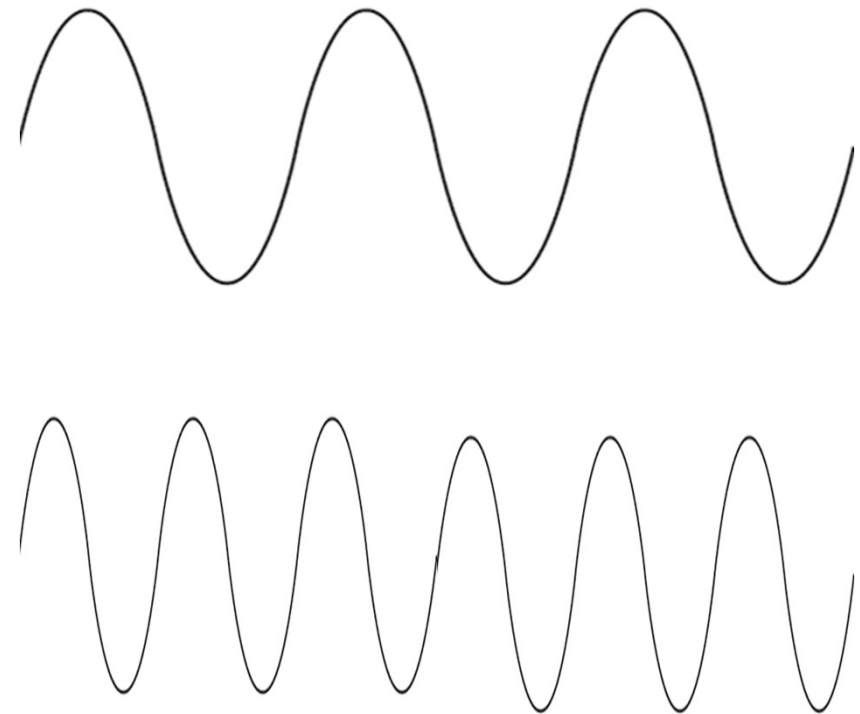
CITYMESH (INTEGRATOR) & DIGI (OPERATOR) joined spectrum



WiFi vs. MPN cost analysis

Basics of wireless spectrum vs coverage

- **Lower frequencies (sub 900MHz):**
 - Larger “umbrella” coverage
 - Better outside-in coverage in buildings
 - Lower “information capacity”
- **Higher frequencies (plus 2400MHz)**
 - Lower coverage
 - High absorption rate (hence bad outside-in coverage in buildings)
 - Higher ‘information capacity’



WiFi vs. MPN cost analysis

Basics of MPN spectrum vs coverage

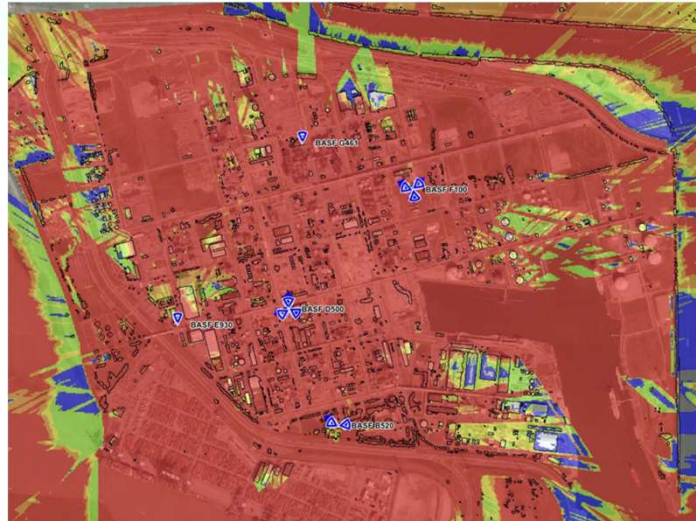


B28 - 700 MHz

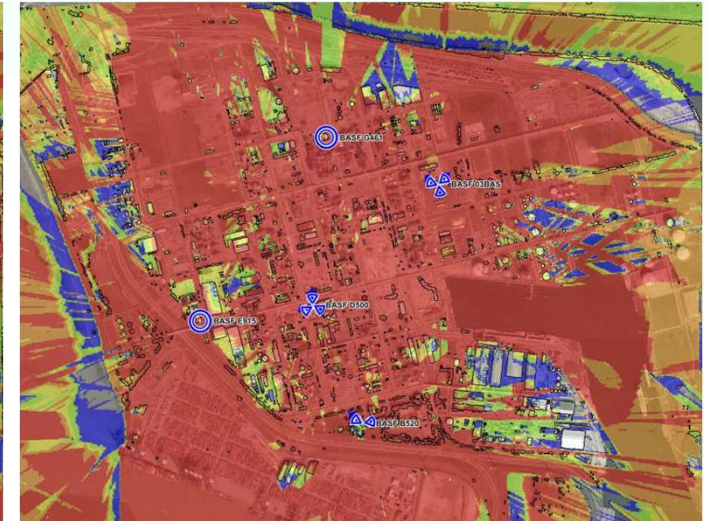
Large “umbrella” coverage

Low information capacity

Minimal absorption



B7 - 2600 MHz



B42/n78 - 3500 MHz

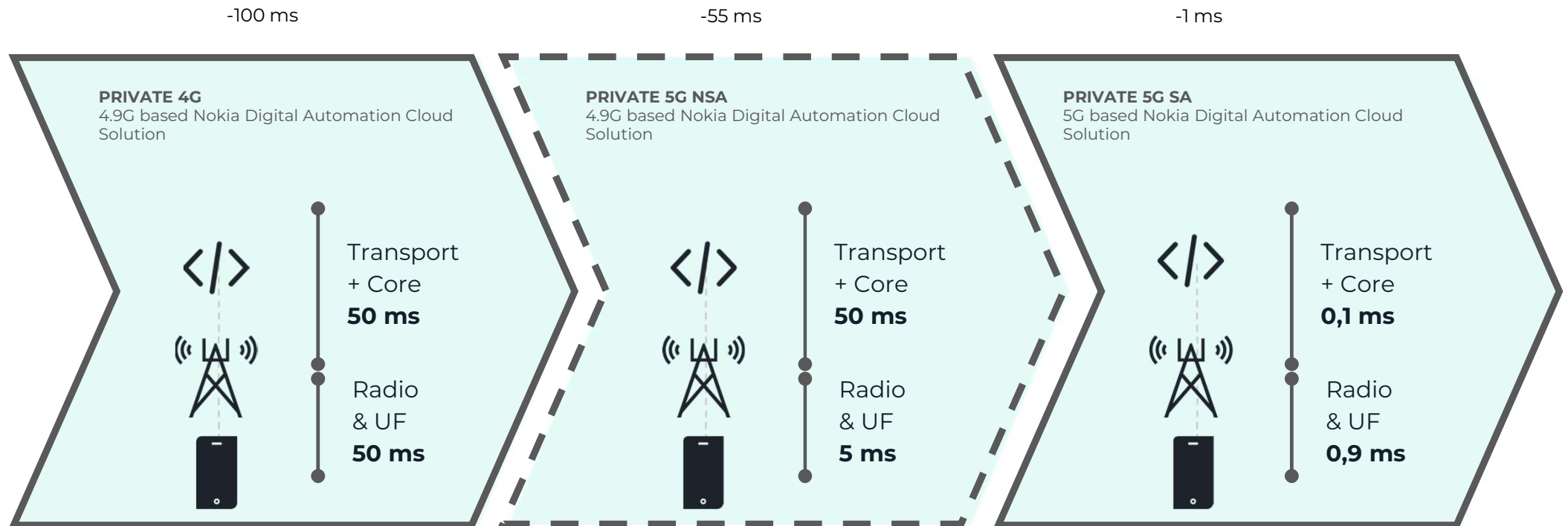
Low coverage

High information capacity

High absorption

P4G/P5G

Citymesh flavors



WiFi vs. MPN cost analysis

Four different reference cases are analyzed

1 Case 1

Context:

Medium sized single-building warehouse

Details:



12.000 m²

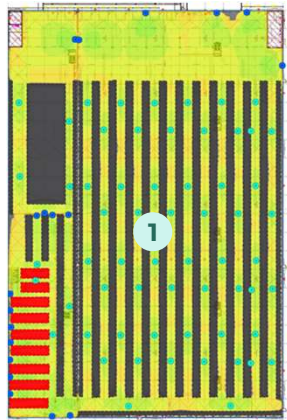


N/A



Single-building

Site plan:



2 Case 2

Site with multiple warehouses and outdoor component



25.000 m²



60.000 m²



Multi-building (1-4)



3 Case 3

Larger building in industrial context and more complex layout to cover



30.000 m²



N/A



Single-building



4 Case 4

Large warehouse with a very large outdoor area



45.000 m²



280.000 m²



Single-building



Inside surface
 Outside surface
 Nr. of buildings



Private 5G is like having
a dedicated fiber network in the air

Mission critical push-to-talk / video/ data

Modern communication technologies have a profound impact on a variety of business processes. They help improve the quality and efficiency while lowering costs. Our MC PTT-solution gives an organization a competitive advantage.

Our applications provide:

- Push-to-talk (PTX)
- Push-to-video
- Chat
- Datasheets & processing
- GPS and indoor localization
- Task management
- Man down
- Patrol control
- Lone worker
- Scanning
- Badging (NFC)
- MDM integrated
- ...



AGV/AMR

Connecting Automated Guided Vehicles (AGVs) to Private Mobile Networks means **opening up new capabilities and enhancing efficiency.**

Today, however, AGVs are being challenged by the more sophisticated, flexible, and cost-effective technology of autonomous mobile robots (AMRs).

An AMR navigates via maps that its software constructs on-site or via pre-loaded facility drawings. Thanks to Private Mobile Networks, AMRs can utilize diverse technology to achieve autonomy: GPS-alike navigation, LiDAR and vision technology, virtual map sharing,.... Wi-Fi cannot support these advanced machines with the seamless coverage and high data transfers needed to operate in these large & complex environments. Private Mobile technology is the only technology that provides the reliability, bandwidth, coverage and security required to safely operate AGVs and AMRs.



AR/VR

Remote Support

Hands Free Solutions for Front Line Jobs. Our headset is equipped with a high definition camera that can be used to capture photos and videos in hard-to-reach places like tunnels, towers, or behind large machinery and equipment.

First line workers can also use the headset for hands free verification and visual documentation.

Some use cases:

- Visual assist
- Remote Mentor
- Data visualization
- Document navigator
- Digital workflow
- ...



FFAI

Smart Cameras

With FFAI, your organization quickly gains insight into different parameters, detects various objects and you immediately know which actions to take. This way your organization can respond in real time.

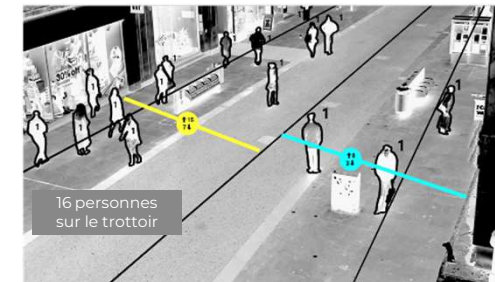
This gives you a continuous, real-time feedback on specific uses cases:

- Safety helmet/vest detection,
- Crowds per area,
- Type of transport,
- Walking/driving direction,
- ANPR,
- Loitering & littering
- Custom object detections,
- ...

FFAI is quickly deployable everywhere. FFAI can be mounted anywhere and monitors from day 1.



Innovation - **FootFall Analytics Insights (FFAI)**



Secure events with Temporary connectivity

Customer challenges

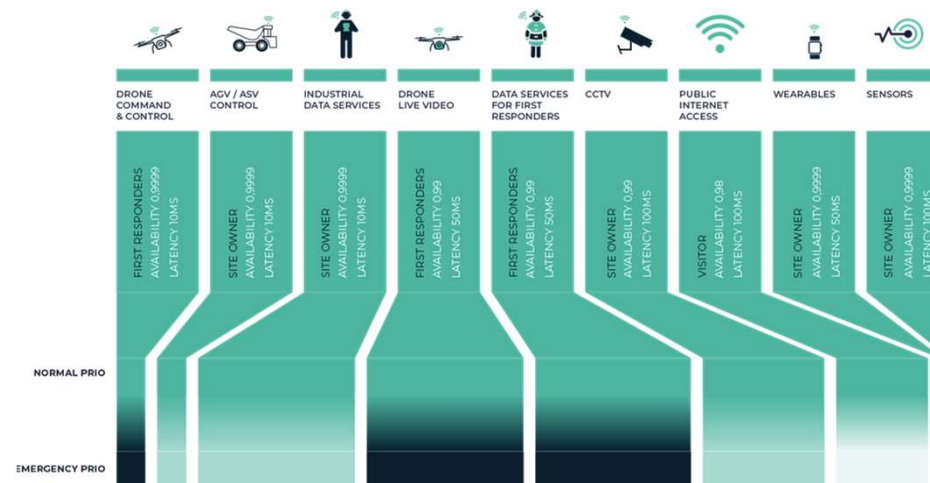
- Handle high number of simultaneous users on Wifi on festivals, events and exhibitions
- Provide temporary high speed connectivity in difficult locations and environments
- Deploy emergency connectivity solutions anywhere in less than 2 hours

Solution

- 24/7 support with on-site presence for events
- High density & reliable local wifi & 5G network
- Backpack and on wheel connectivity kits
- High capacity temporary 4G/5G/SAT/P2P wireless backhaul and wired connections (Fiber, DSL, Coax)



Usage & traffic slicing



>250
temporary
events per year

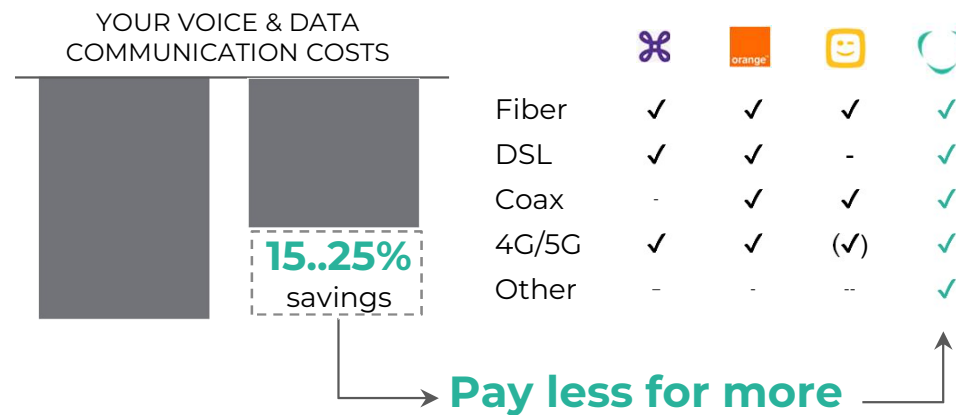
Challenge your Telecom Providers

Customer challenges

- Cost & transparency
- Reliability
- Temporary connectivity needs
- Technical support

Solutions

- Fixed connectivity : Fiber, DSL, Coax
- Wireless connectivity: public and private 4G/5G, point to point, satellite
- Backup lines and temporary solutions
- ISDN (BA, PRAs) & SIP Trunking
- Cloud telephony and devices
- Strong SLAs
- Contractual fairness
- MVNE offering



Break the bullshit

No small prints, no hidden costs, only transparency.



Break the price barrier

Belgian mobile and fixed internet subscription are among the most expensive in Europe, but let's change that.



Break the status quo

We need to change, to innovate, to solve tomorrow's problems. And we love it!



Break the lack of feelings

We started off and grew as B2B company, so we understand how your business works and what it needs in terms of connectivity.



>1000
Customers
94.7%
satisfaction

Rethink your operations with **Drones as a Service**

Customer challenges

- Repetitive and accurate inspections & measurements
- Fast severity assessment of incidents and emergencies



Solution

- Drones in a box
- 7/7 remote pilots
- Dispatching system
- Innovative business model (pay per flight)
- AI based **inspect**, **measure** and **report** functions



How we make a difference:

Challenging the status quo as
National Operator

European leader in
Mobile Private Networks

Operator of the BE & NL
0G IoT networks

Unlocking opportunities with
Safety Drone Shield



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connecting
opportunities