IoT

The epochs

- Stone Age
- Iron Age
- Middle Ages
- Imperial Age
- Industrial Age → Coal & Steel
- Modern Age → Gold & Oil
- Digital Age → It & Data

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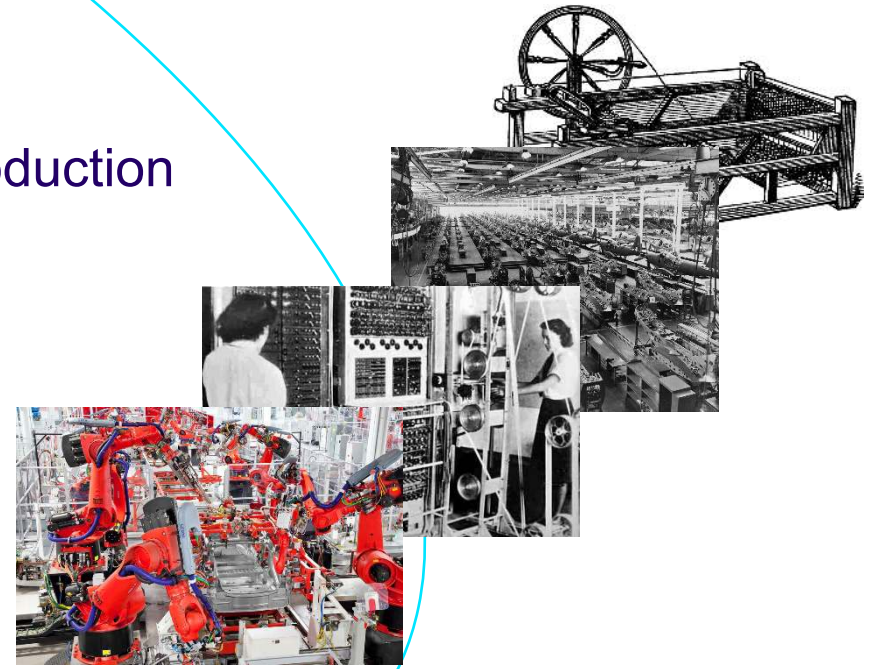
Revolutions

1st : Mechanization of production

2nd : Mass production

3rd : Digital revolution

4th : Smart world

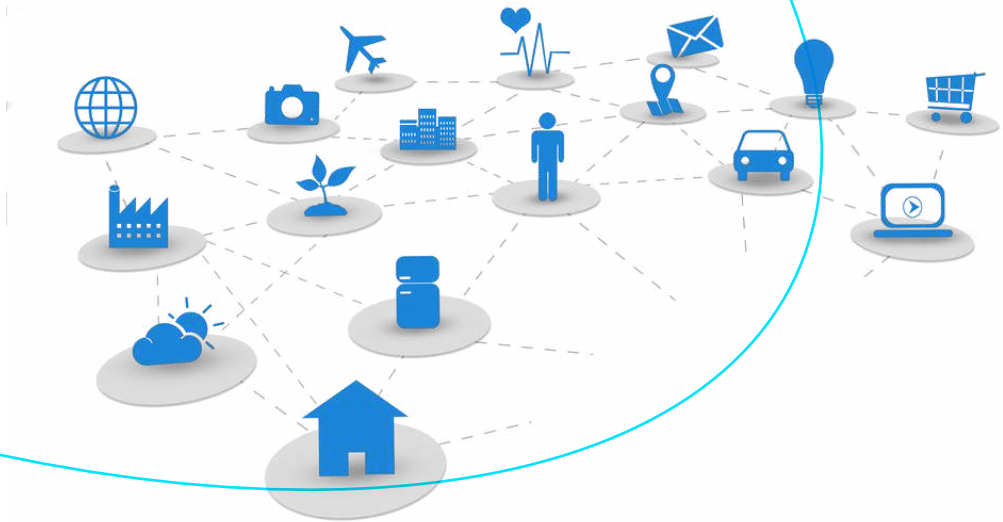


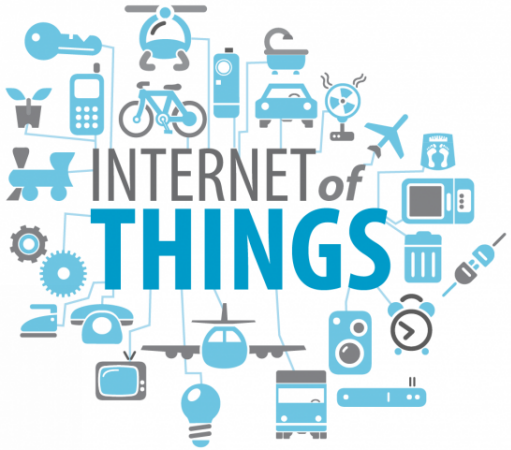
Threats

- Stagecoach → Robbery
- Steam engines → Fire
- Electricity → Blank wires
- It → Hackers
- IoT → ???

IoT

- Small messages
- New networks
- Data revolution





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Requirements

- New & intelligent laws
- Innovative companies
- An adaptive society

The best way to predict the future is to invent it.

(Alan Kay 1971)

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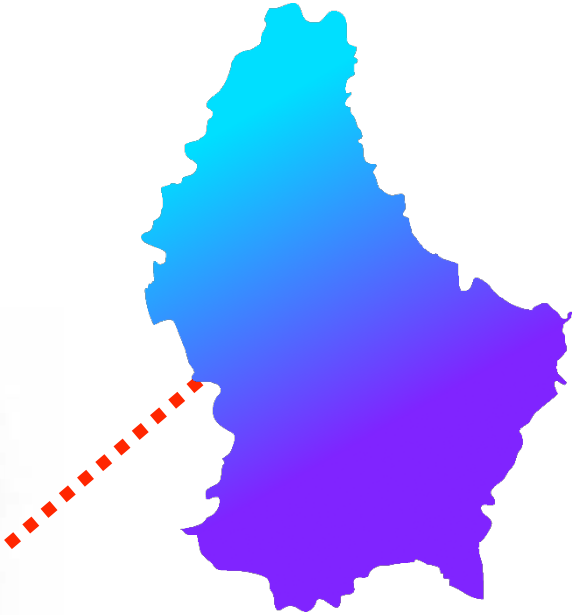
- Network Operator Sigfox Luxembourg
- Innovative
- Edge of technology



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Our view

- Data is the Gold & Oil of the 21st century
- Get involved to be up to date
- If it doesn't exit → invent it

Our predication

- Data will become the most important resource
- More IoT related projects
- Normalization of keywords
  - Smart Cities
  - Smart Buildings
  - Smart Building Sites
  - …

Where are we heading to?

- Virtual Reality
- Augmented Reality
- Robots

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What do we do?

- Nationwide coverage of Sigfox
- Prototyping & pilot projects
- Development of new products
- IoT platforms as a service

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Make things come alive

- Ultra-narrow band (UNB)
- 868 MHz (Europe)
- 12 bytes per message
- 140 messages per device per day
- 1000 x more energy efficient than cellular

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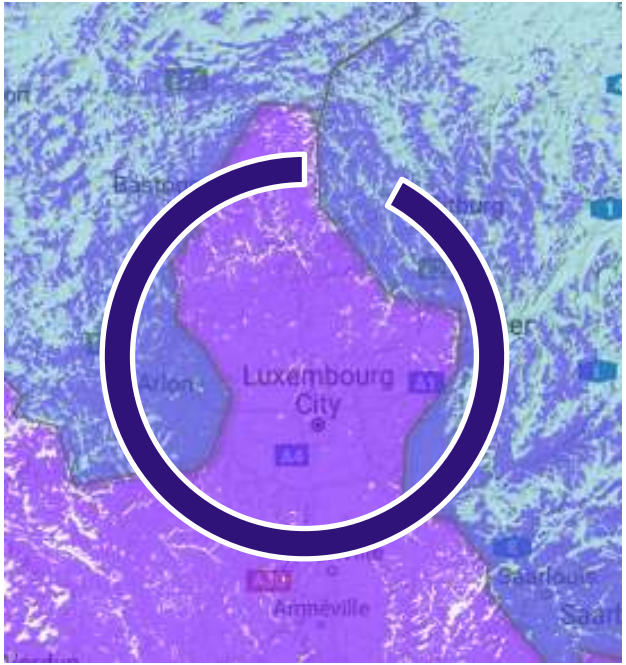
Coverage today

- 95% of Luxembourg
- 92% of France
- 94% of Spain
- Similar coverage for the Netherlands
- And many more …



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SNO’s

- 1 SNO / country
- Independent
- Roaming capable

Germany Sigfox	French Antilles IDEO Caraïbes	Australia Thinxtra	Belgium Engie M2M	Brazil WND
Colombia PHAXSI	Czech republic Simple Cell	Denmark IoT DenmarK	The Netherlands AERFA	Spain Cellnex
United States Sigfox	Finland ConnectedFinland	France Sigfox	French Polynesia VITI	Reunion Island / Mauritius / Mayotte IO Connect
Ireland VT networks	Italy NetTrotter	Luxemburg RMS	Malta Malta	Mexico IotNet Mexico
New Zealand Thinxtra NZ	Oman Omantel	Portugal Narrownet	UK Arqiva	Singapore UnaBiz Singapore
Taiwan Unabiz Taiwan				

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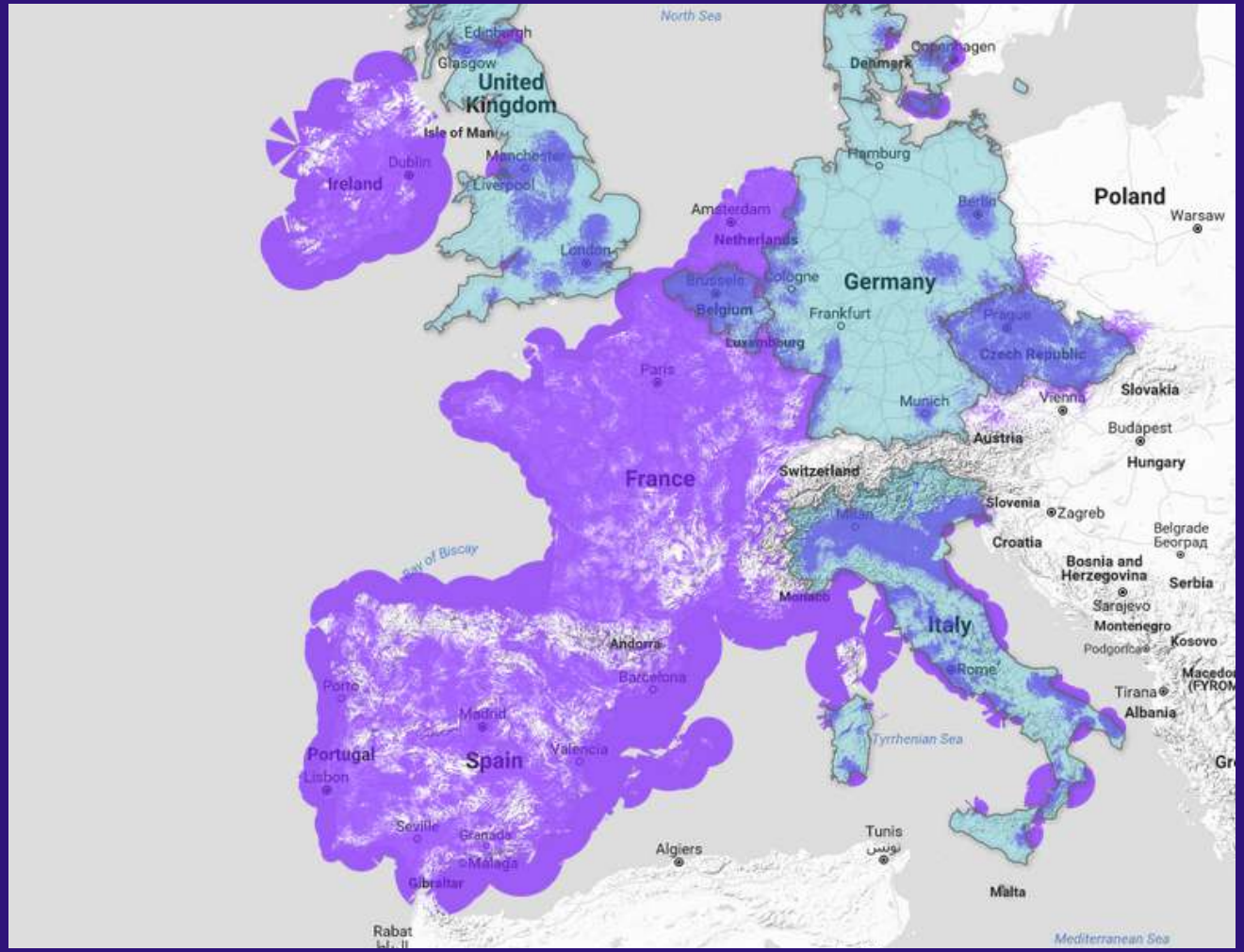
Europe today



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Security

- Encrypted data
- Redundant transmissions
- High reliability

Sectors

- Agriculture
- Construction
- Consumer electronics
- Emergency services
- Healthcare
- Intelligent buildings
- …

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Use cases

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1. Water metering

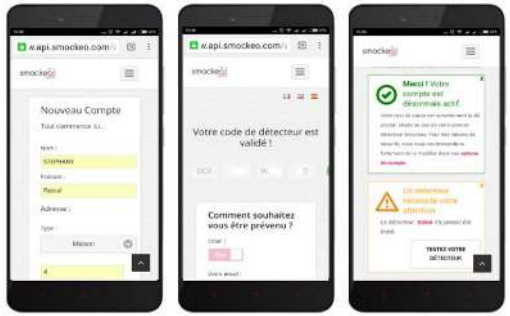
- Disruptive technology
- Live consumption
- Leakage detection
- Additional services
  - Identify permanent consumptions
  - Monitoring
  - Prediction

2. Smoke detector

- Classic function

  → Noise

- Additional information
  - Remote notification
  - Detector attached
  - Signal strength
  - Battery status



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2. Parking sensor

- Monitoring occupation
- Parking guidance systems
- Detect misdemeanors

Future projects

- Smart construction sites
- Smart waste bins
- Measuring river water
- Leakage control
- …

The end

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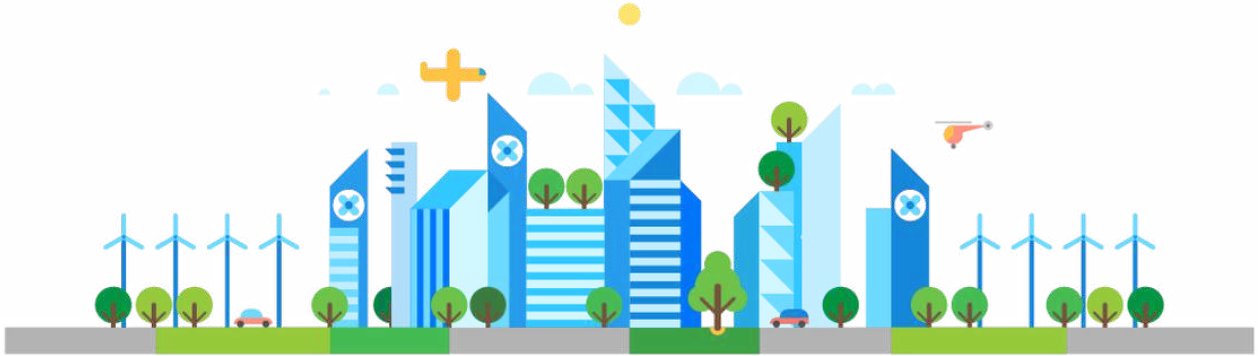
Make Things Come Alive

Please ask if you have any questions!