

Digital Cities

# DiPreTreat

Diagnosis, Prognosis and Treatment of technological pathology affecting European Cities

**PRODUCT LAUNCH**

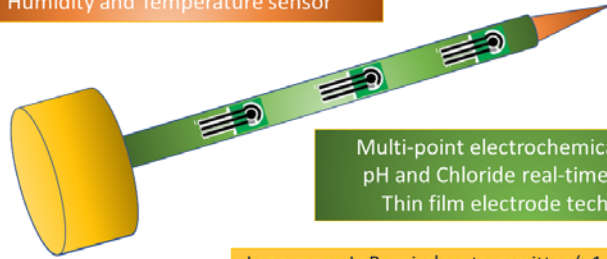
**PARTNERS:** Santer Reply (Italy), Politecnico di Torino (Italy), Pipple (The Netherlands), University of Trento (Italy)



## DiPreTreat: The Smart Pod



Driving solid head  
Humidity and Temperature sensor



Multi-point electrochemical sensors  
pH and Chloride real-time profiling  
Thin film electrode technology

Long-range LoRa wireless transmitter (>1 Km)  
Potentiostat circuitry  
Low-power microcontroller & memory  
Battery

## New way for corrosion monitoring in concrete structure

DiPreTreat is an innovative service for concrete infrastructure corrosion real-time monitoring using non-invasive technology to detect the pace and intensity of the degradation and predict the remaining time of life.

DiPreTreat is a set of services and innovative sensors, which timely give an insights of the corrosion in buildings and significantly reduce cost of intervention and improve the security of concrete infrastructure. Using wireless low power technology, detailed physical-chemical multi-parameter data harvested toward the cloud to immediately visualize and notify the degradation status, AI-based predictive algorithms provide forecast of the corrosion issues on an intuitive way.



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EUROPE'S DIGITAL  
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## Competitive Advantages

- Artificial intelligence-driven corrosion forecast with an expandable data presentation
- Noninvasive monitoring technology
- Onsite IoT devices data harvesting and LoRa communication

## Target Markets

- Architecture and Civil Engineering Studies
- Companies monitoring concrete civil infrastructures

## Status/ Traction

- Potential customers are pointed out: companies monitoring concrete civil infrastructures, city council.
- With partners Santer Reply, University of Trento, Politecnico di Torino and Pipple.

## Road Map

### 2020

- DiPreTreat sensors and platform development and integration
- Data analysis and AI algorithm knowledge base development and integration

### 2021

- Improvement of the sensors, AI and self-learning system data collection and fine tuning

## Leveraged Technologies



Electrochemical and vibration sensors for concrete embedding. Analytics algorithms to derive stability and corrosion status from chemical patterns. Low-power, approximated sensing techniques. Lora/5G narrowband data transmission. Cloud-based PaaS platforms. AI algorithms for prediction of degradation and progressive lack of structural stability. Exoskeleton for buildings technology (digital design and customization).

## Contact



**Maurizio Griva**  
Business Champion  
e: m.griva@reply.it  
t: +39 335 123 2323  
via Cardinal Massaia 83  
10147 | Torino | Italy



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### **DiPreTreat - Diagnosis, Prognosis and Treatment of technological pathology affecting European Cities** is an innovation activity proudly

EIT Digital supports entrepreneurial teams from research and business organisations in launching new startups and new products in agile 12-month projects called innovation activities. These activities are embedded in EIT Digital's European ecosystem and receive a financial co-investment to package their technology, sign up customers and attract investors.