### **ADVANCED ANALYTICS FOR GEOSPATIAL** DATA

Nicolas Rafael Palomino Advanced Analytics for Geospatial Data

Monday, Sep 28, 2020 @ 12:00 AM EDT (2020-09-28 04:00UTC) W3C/OGC Joint Workshop Series on Maps for the Web

w3.org/2020/maps/



# Interactive Maps Widgets

#### Based on location or non-location



\*Cloud-connect IoT devices, data analytics and AI integration

New technologies include advanced computing, "Big Data" analytics, artificial intelligence and machine learning bringing automation

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### **Bringing Life to Things(I.T** systemj

Connected in-Context, predictive and self-aware devices will help drive boundaryless, pervasive and Expericience Rich entreprise ecosystems. (Global Plateform)



#### **GDPR** Ready



# **Unlocking Exponential Value**

New Business Models

Connected networks Hybrid Cloud Computing

#### • Seamless Customer Experience *Client-centerized systems Predictive and Pervasive AI, Machine Learning, Advanced Analytics*

#### Enhanced Quality of Life

Improves Safety Security Quality

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#### Optimized and Responsive Value Chains

*Increase speed to market with mass customization In-context predictive and persuasive* 



### **Basic Uses**

- Restauration
- Retail Stores(Commercial Uses)
- Social
- 5G
- Enables direct connectivity with Restauration chains for Private or Social events. Local or non-local Interaction with services and disponibilities (Individualized Data Symbiosis)
- Enables direct connectivity with Retail Supply Chain for Private or Social events. Local or non-local Interaction with merchandise and stock disponibilities (IDS) (E-Commerces)
- Social Mobile Application, Social Benefits, Social Behaviours Designs
- 5G More speed and reliability, Big Data, Long-lasting relationship with customers The industrial revolution will be powered by both established and emerging technologies, including the IoT, Advanced data analytics integrated with artificial intelligence, robotic process automation, robotics, edge computing(Digital twin virtual and augmented reality)



# **Commercial components and Industry**

### Vertical and Horizontal Integration **Systems**

Key to automate data transmission in smart factories and communicating

with providers and clients(MES,ERP, IoT)

#### CPS Systems

**4.0** 

**Processing, storing and communication Capabilities controlling** more than

one physical process. Interconnected through the Internet. Decentralized

data analysis and decision-making. Enables real-time responses.

#### Big Data and Data Analytics

Helps processing and analysing huge amount of data predicting future

problems or necessities

#### Simulation Software

Collected information processed to model the behaviour of machines

### **Cloud and Edge Computing**

Fog Computing or Cloudlets enable offloading part of processing from the cloud to the edge of the network, Limitation decreasing latency response. when maintenances

Software problems or attacks.

#### CyberSecurity

Key to provide secure and reliable communications, authentication systems and preserve data privacy in order to

avoid cyber attacks. Required to protect industrial critical systems.

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### **Social features exploitation for Geospatial Data**



- Private Usergroups
- Public Usergroups
- Individualized Usergroups
- Location Meetings Functionality
- Geospatial Data avalaiblity from non-local or local point.
- Social Transports and Private transports services
- Different Social Media Interconnections(IG, FB, Spotify, SN, Uber)



## The fifth generation



#### 5G and IoT Will Be Leading a Paradigm Shift in M2M Communication Management

#### Data-Transfer Speeds Greater Network Reliability

### Integrated Advanced analytics with AI, IoT and 5G for real-time insights & recommendations Next Generation Digital Commerce With 5g



## Industry 4.0

- Interconnections
- Information Transparency
- Technical Assistance
- Decentralized Decisions

The re-infrastructure and implementation of such systems will take years but is critical to technological and industrial revolution that is happening.

#### Main technologies.

- CPS
- loT
- **On-Demand availability of computer system resources**
- **Cognitive Computing** lacksquare







### Conclusion

- Understanding and address the ethical, legal and societal implications Ο
- Ensure the Safety and Security of AI Systems Ο
- Develop shared public datasets and Environments for AI training and Testing Ο
- Expand Public-Private Partnerships to accelerate Advances in AI Ο

Shifting in modernization, <u>Governmental technology(DoD)</u> Futur of Industry, Government and Academia datasets Expending Network Grid



# THANK YOU!

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