

数字化转型的关键驱动因素 - 物联网、数据和人工智能...

未来物联网大会



26-28 June 2019

Patrice SLUPOWSKI

数字创新高级副总裁

@slupowski





Electronic Mail Mailbox

<12,040> NEW ELECTRONIC MAIL MESSAGES!

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[ ] from: Ray Tomlinson >> "Hit me back if you get this."
[ ] to: Ray Tomlinson >> "OMG! I TOTALLY DID! WHAT IS THIS?"
[ ] from: Ray Tomlinson >> "It is like an electronic version of mai..."
[ ] from: intern >> "Hey U guys need 2 see this funny kitte..."
[ ] from: Ray Tomlinson >> "HAHAHA! But that's really not what this is..."
[#] from: cookebpgdl1 >> "Cheap Phrama Only Today! \N/\G/K/\ !!!!!!!!"
[#] from: no-reply >> "Enhancing your rod will be the best wa..."
[#] from: real mom >> "Local mom makes $22.80 in ONE WEEK!! "
[ ] to: Ray Tomlinson >> "What's going on?"
[ ] from: Ray Tomlinson >> "I'm not sure. I can't stop it. :("
[ ] to: Ray Tomlinson >> "HA! That looked like face frowning side..."
[#] from: eqefq sweik >> "Be a sperm-man with Shitloads of Sperms!"
[#] from: cialis4cheap >> "you p3ni$ will be very gratefull!"
[ ] to: Ray Tomlinson >> "I hate you."
[ ] from: Ray Tomlinson >> "I hate me too."
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Internet of Things Landscape 2016

Applications (Verticals)

<h3>Personal</h3> <h4>Wearables</h4> <p>Apple WATCH, Samsung Gear2, Pebble, Moto G, LG, Huawei, Fitbit, Jawbone, CAEDEN, MOTIV, textronics, PLO, DIORI, Jewelbots, nymi, RINGLY</p> <h4>Fitness</h4> <p>JAWBONE, fitbit, tomTom, GARMIN, NIKE, HISPIT, BASIS, tuami, Microsoft Band, ATLAS, mapmyfitness, RunKeeper, amigo, lifeBEAM, ATHOS, lark, senSoria, WHOOP, striv</p> <h4>Health</h4> <p>Withings, VINSO, TELERAD, NINEA, Thync, beam, QUANTITUS, proteus, Gingerio, iHealth, EarlySense, YETIBU, narroware, vessyl, beddit, sano, helio, oswow, eyeSmart, GLOBE, AdhereTech, AliveCor, FROPELLER, HEALTH, GEORGIA</p> <h4>Entertainment</h4> <p>SONOS, RAZER, doppler labs, ROLI, Narrative, soundhauc, Electric, Objects, neural normal</p> <h4>Sports</h4> <p>STRAYA, WILSON, Babolat, PELTON, ZEPP, ARCCOS, INFORMATION, COCON</p>	<h3>Home Automation</h3> <p>nest, LIFX, Honeywell, ecobee, SILENCE, SILVER, LIGHT SENTRY, VIEW, OULTRON, ORVISO, levit, somfy, roost, tado, KEEN</p> <h3>Hubs</h3> <p>nest, INSTEON, IRIS, BOSCH, Smartthings, connect, iRule, Control, ivee, wink, vera, predeo, NINJALOCKS, Fluent, NEXIA, zonoff</p> <h3>Security</h3> <p>August, SCHLAGE, Kwikset, dropcam, canary, vivint, SimpliSafe, ring, KIWI, Keykit, evercam.io, Locktron, COCCOON, Seek, scout</p> <h3>Kitchen</h3> <p>JUKE, nomiku, drop, netatmo, leeo, ambient, birdi, AWAR, SUPERMECHANICAL, BREWBOT, pariky, innit, Sereneli, eubee, wally, sense, TRANSFORMAI</p> <h3>Pets</h3> <p>Whistle, Petnet, EDY, iPlants, BITPONICS, iRachio, iRabbit, Rabuls, HACHIKO, Petcube</p> <h3>Garden</h3> <p>netatmo, leeo, ambient, birdi, AWAR, SUPERMECHANICAL, BREWBOT, pariky, innit, Sereneli, eubee, wally, sense, TRANSFORMAI</p> <h3>Consumer Robotics <p>ALDEBARAN, jibo, iRobot, RoboT, HACHIKO, Petcube</p> </h3>	<h3>Vehicles</h3> <h4>Automobiles</h4> <p>INRIX, waze, AUTOMATIC, STREETLINE, dash, Zbe, novdy, Automia, vinli, AirBiquity, OpenXC, Comma</p> <h4>Autonomous</h4> <p>Google Self-Driving Car Project, TESLA, DAIMLER, UBER, QUANERGY, DELPHI, NAVARANT, CyPhy, Peloton, Valeo</p> <h4>UAVs</h4> <p>DJI, Parrot, Airware, LILY, CyPhy, SKYWATCH, SKYDIO, YUNEEC, DroneDeploy, X430, DRL, SKY FUTURES</p> <h4>Space</h4> <p>BOEING, SPACEX, BLUE ORIGIN, spire, Orbital ATK, MANORACKS, SUBACTIC, XCOR</p> <h4>Bicycles / Motorbikes</h4> <p>soligo, gogogo, SKULLY, SKYLOCK</p>	<h3>Enterprise Healthcare</h3> <p>STANLEY, AUGMEDIX, WERSUS, amco, Vitalconnect, Novosom, Omim, Senseonics, PERIBERGE, vivify, AIRSTRIP, Sotera, Ilyum, Releco, InPhase, TeleTracking, PRISTINE, Wadsworth, OUTLINE</p> <h3>Retail</h3> <p>RETAILNEXT, euclid, Meetro, PRISM SKYLABS, hiku, cloudtags, GIMBAL, PHUNHARE, NOMI, VARIABLE</p> <h3>Payments / Loyalty</h3> <p>PayPal, shopify, Square, Verifone, paycom, belly, coin, Contabooks, SHOPKEEP, ciright, LevelUp, DUFFEL</p> <h3>Smart Office</h3> <p>LogMeIn, CRESTON, KISI, Robin, BUILDING, CERN, XORAC, everboard</p> <h3>Agriculture</h3> <p>adapT-N, Ag Leader, ONFARM, pvcno, ARBUS, Smartfield, afimilk, Zent, ClimateMaster, SPENSA, i-Linc</p> <h3>Infrastructure</h3> <p>WORLD, TACHYUS, mifrest, ELTAV, SMART, SENSOR, MAN, INCON, SMARTSTRUCTURES, HELMASENSE, Sensor Logic, GROUNDMETRICS</p>	<h3>Industrial Internet Machines</h3> <p>CATERPILLAR, SIEMENS, BOSCH</p> <h3>Energy</h3> <p>Schneider, Itron, enlightened, StarCity, Trilliant, enovo, ENERNOC, Lucid, Shesmart, ENERGY SAVVY, Hydrochassis, AutoGrid, Energen, Energy</p> <h3>Supply Chain</h3> <p>Fleetmatics, Impiry, VILCO, Omnia, SkyBee, SMARTDRIVE, Telogis, assetpulse, WEFT</p> <h3>Robotics</h3> <p>amazon robotics, ABB, CLEARPATH, HARVEST, KUKA, ROBOTIK, EMPRIE, LIQUID, temp automation, OPENRV</p> <h3>Industrial Wearables</h3> <p>GLASS, DAQRI, parsole, BITSTEW, BUBBART, APX</p>
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Platforms & Enablement (Horizontal)

<h3>Software</h3> <p>xively, Axeda, Jasper, Lemetry, Ayla Networks, ThingWorx, wot.io, covisint, thingsquare, greenwave, M2M, Wisilica, innoPath, respowpower, machineshop, Cslot, arraynet</p>	<h3>Full Stack</h3> <p>samsara, EUROTECH, Predix, HELIUM, Telit</p> <h3>Developer</h3> <p>electric imp, TESSEL, resin.io, Particle, theThings.io, KONEKT, SensorCloud, NewAer</p> <h3>Analytics</h3> <p>splunk, sumologic, KAAZING, Tempog, UPTAKE, gussbeam</p> <h3>Sensor Networks</h3> <p>placemeter, SAFECAST, SST, MotionLoft</p>	<h3>Connectivity</h3> <p>SIGFOX, SIERRA, M2M, FILAMENT, aeris, UGENU, VENTAM, KORE, Intamac, skyroam, R K E S S A, senet, acility</p> <h3>Security</h3> <p>Symantec, genalto, Bastille, inside, MOCANA, NEURA, SHODAN, escript, SecurThings, CyberFlow, OWASP</p> <h3>Open Source</h3> <p>KPIA, ThingSpeak, iot, webinos, openMAB, nimbits</p>	<h3>Interfaces</h3> <p>oculus, VIVE, PlayStation VR, Samsung Gear VR, OSVR, VYBEAN</p> <h3>Virtual Reality</h3> <p>Microsoft HoloLens, zSpace, VUZIX, EPSON, SONY, BIPPAR, PARACOSM</p> <h3>Augmented Reality</h3> <p>Microsoft HoloLens, magic loop, Meta, EPSON, SONY, BIPPAR, PARACOSM</p> <h3>Other</h3> <p>amazon alexa, THALMIC, nod, EMOTIV, LEAP, SIXENSE, ivee, RYTHM, api.ai</p>	<h3>3D</h3> <p>Project Tango, Intel, REALSENSE, stratasys, occipital, matterport, formlabs, DESKTOP METAL, Carbon, shapeways, sculpteo, woodoo</p> <h3>Content / Design</h3> <p>Sketchfab, Thingiverse, GRABCAD, AUTODESK, BODY LABS, FLOORED, DISSAULT SYSTEMS</p>
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Building Blocks

<h3>Hardware</h3> <h4>Processors / Chips</h4> <p>intel, QUALCOMM, TOSHIBA, ARM, NVIDIA, LG, SIEMENS, NXP, Movidius</p> <h4>Sensors</h4> <p>NATIONAL INSTRUMENTS, libelium, psிக்க, Quatre, MEMSIC, VALEN, PetaSense, XERAFY, skyetek, mCube, MOOD, ThangMagi</p> <h4>Parts / Kits</h4> <p>ARDUINO, XILINX, relayr, Octopart, humavox, AMPY</p>	<h3>Software</h3> <h4>Cloud</h4> <p>Google Cloud Platform, IBM Watson IoT Platform, Microsoft Azure, Amazon Web Services</p> <h4>Mobile OS</h4> <p>iOS, android, Brillo, BlackBerry</p>	<h3>Connectivity</h3> <h4>Protocols</h4> <p>WiFi, Bluetooth, ZigBee, LoRa Alliance, MQTT, NFC, eWAVE, AMQP, M-Bus, OMA, MIWV, XTO, THREAD, MART, BITX, DDS, RIFID, CoAP, RuBee</p> <h4>M2M</h4> <p>intel, QUALCOMM, SIEMENS, XIPRO, Texas Instruments, ARM, ATmel, Laird, cisco, FIBOCOM, MOTOROLA</p>	<h3>Telecom</h3> <p>verizon, Sprint, P-Mobile, at&t, Telefonica, China Unicom, US Cellular, Vodafone</p>	<h3>Consultants / Services</h3> <p>PTC, pch, R/GA, makexyz, altium, 8</p>	<h3>Partners</h3> <h4>Retail</h4> <p>amazon, Walmart, Target, Lowe's</p> <h4>Manufacturing</h4> <p>FOXCONN, flex, JABIL, PEGATRON, Benchmark, Celestica</p> <h4>Incubators</h4> <p>techstars, Lemnos Labs, BOLT, KICKSTARTER, AngelList</p>
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互联网对象超过100亿

Vision of IoT

Objects

Internet of Things

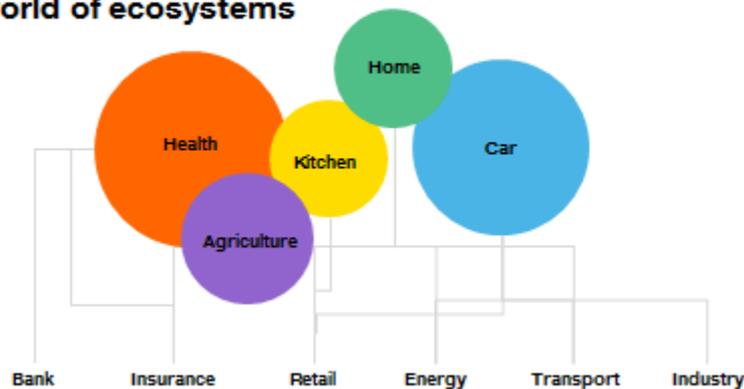
Big Data

Services

Internet of Data

Internet of Data

A world of ecosystems

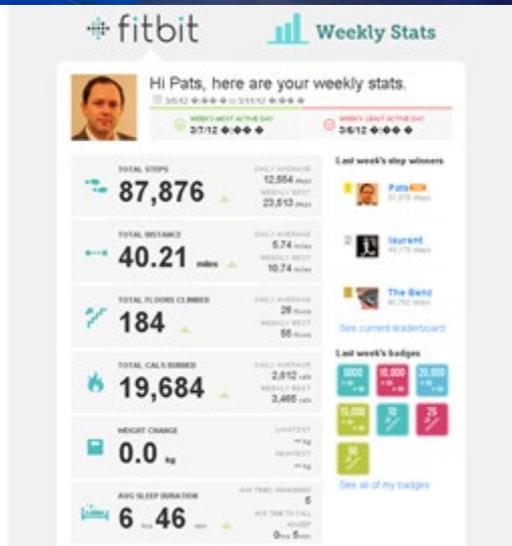


Customer interactions of tomorrow



AI is the new UI





Behavior change
will be
the killer-app
of the IoT

1

多发性关节炎



7 000 000 ~ 1%



orange™

“通过分析活动追踪器数据，我们能否发觉多发性关节炎患者日常活动中的行为变化？”

2

170名患者 - 3个月



+15 000 000条数据

Datavenue



Khiops ©



24h	predicted	
true	0	1
0	0.96	0.04
1	0.52	0.48



1h	predicted	
true	0	1
0	0.97	0.03
1	0.04	0.96



3



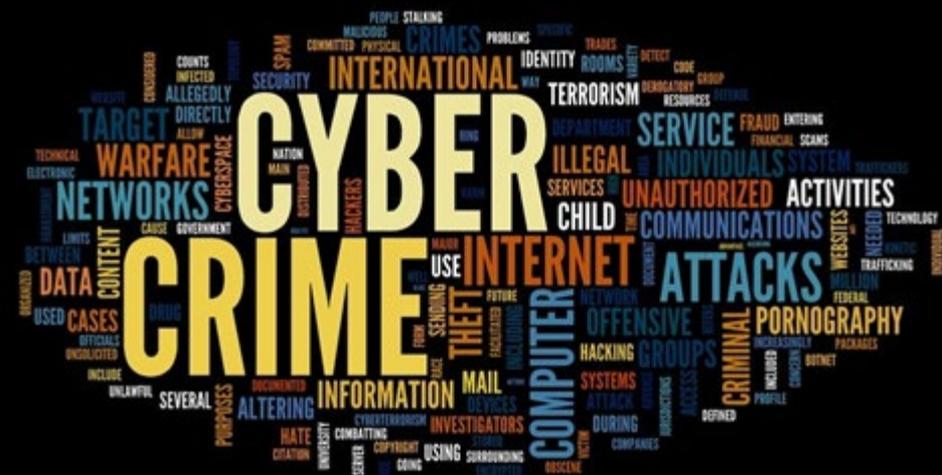


GDPR: General Data Protection Regulation

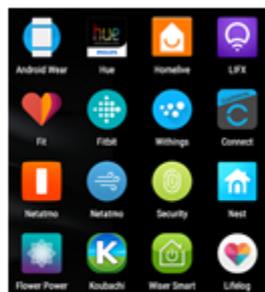


- Harmonized framework
- Extraterritorial application
- Explicit and positive consent
- Right to be forgotten
- Personal Data Portability
- Profiling
- Privacy by design
- Data leaks notifications
- Data Protection Officer nomination
- Potential fines for data security breaches (up to 4 % of overall turnover)
- Creation of the European Data Protection Board
- Application from May 25th 2018

Users **Data**
must belong
to Users



So many passwords...



Creating a password

cabbage

Sorry, the password must be more than 8 characters.

boiled cabbage

Sorry, the password must contain 1 numerical character.

1 boiled cabbage

Sorry, the password cannot have blank spaces.

50fuckingboiledcabbages

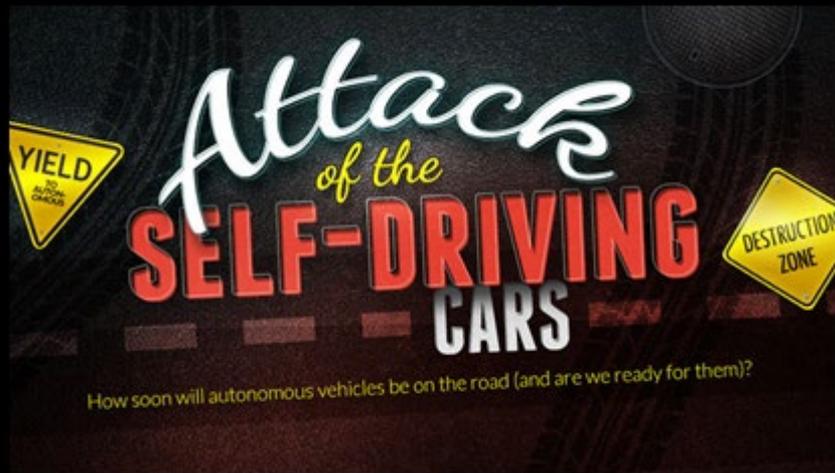
Sorry, the password must contain at least one upper



Password is dead

Friction is everywhere

The IoT will densify the internet by a factor of 15



My building has been hacked



Cyberdefense
Academy

Future of
Digital Identity
will be **strong**,
frictionless
and **multi-factor**

17



18





Authenticate/Plus Proposition Overview

A simple, safe end user authentication solution on a global scale

The Internet of Things

Orange covers the whole of the IoT value chain

Networks suitable

for the exchange between objects.



Distribution of connected objects

particularly in Smart Stores.



IoT

Value-added services

in health, wellbeing, connected home, smart city, industry, automobile or business.



Datavenue:

A modular offer regarding Data & IoT in order to help companies to select, connect, handle and control them Connected Objects and Data, with security.



连接： 完整的互补性技术组合

由于对开放性、互用性、全球性及可持续性技术的信任，我们正将传统蜂窝网络与LoRa®及LTE-M技术（4G网络技术的升级）相结合，同时也在为迎接5G做好准备，以便每个用例都能从最佳连接中受益。

1.
2G、3G以及4G
蜂窝网络



2.
LoRaWAN™技术

3.
LTE-M技术

未来， 5G

5G将基于LoRa®和LTE-M网络开发与建设，服务于低能耗设备。

5G将整合现有的移动物联网技术及技术升级。除在覆盖范围、电池续航时间和地理定位方面的性能提升外，5G还将为要求严苛的物联网增添一个至关重要的新特性：**超高可靠性和极低延迟性**。

5G网络将于2020年开始进行首次商业推广（消费者、智能手机以及特定于某些商业领域的服务），**并将于2022年进行高级功能拓展推广**。

Orange正为新网络的部署时刻准备，例如，与UTAC-CERAM和爱立信携手合作，在欧洲5G PPP计划和5GCAR项目背景下，为自动驾驶汽车提供4G/5G连接功能。

迈向家庭消费生态系统（HCE）的第一步



Orange API

 Log in



Orange Developer

Products

Support

Blog



 My apps

**Build your service
and co-innovate
with Orange**

Access our APIs



我们的创新秘诀是什么？

与物联网生态 系统 协同合作

1.

协同创新模式

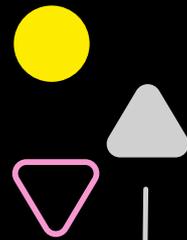
Orange每天都在与各种规模的企业展开合作：

- **SEB**：与Foodle共同打造全新的烹饪体验。
- **K-Technology & Services**：互联湿度计K-mIoT。
- **Hxperience**：用于建筑施工的SMATI软件解决方案。

2.

Datavenue Market

Orange创建了 [Datavenue Market](#)，以促进期望以低成本进行物联网项目自主测试和验证的互联设备生产商与公司或开发者之间的交互。



我们的创新秘诀是什么？

与物联网生态 系统 协同合作

3.

Orange 开发者

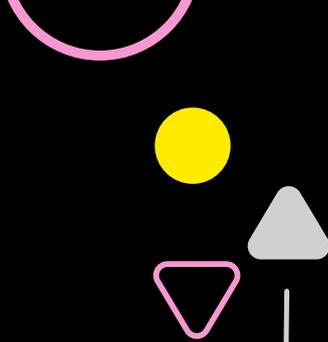
Orange为开发者提供了广泛的解决方案，如API和原型工具包，并规划组织挑战以此激励和支持开发者。

4.

软件供应商与集成商的专属 程序

开发者将从简化的Orange访问流程中受益，并获得商业与技术支持以充分利用Orange的物联网网络、平台和设备。

该程序由为不同客户的用例量身打造的服务组成。其中包括网络连接（LoRa®、蜂窝）、Live Objects平台访问、培训以及邀请参加Orange及其合作伙伴行业活动。获选的参与者不仅将通过Datavenue Market提升知名度，而且还将被整合至Orange的产品组合中。



Orange Gardens 物联网应用， 我们的创新生态园



互联温室

使用2G和LoRa®网络进行温湿度控制。
与创业公司MyFood密切合作。



互联蜂巢

与创业公司Hostabee合作，
运用LoRa®网络进行蜂巢活动监测（温度、湿度、重量等）



开放式物联网实验室

为满足设备生产商寻求在基于LTE-M技术的网络环境下，测试其产品或服务而设立的专属空间。

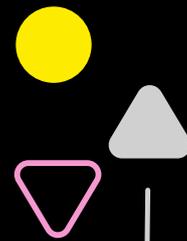


互联路灯

设备生产商基于该网络，测试其户外解决方案所用的LTE-M天线



诚挚感谢!



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