

工业互联 智见未来

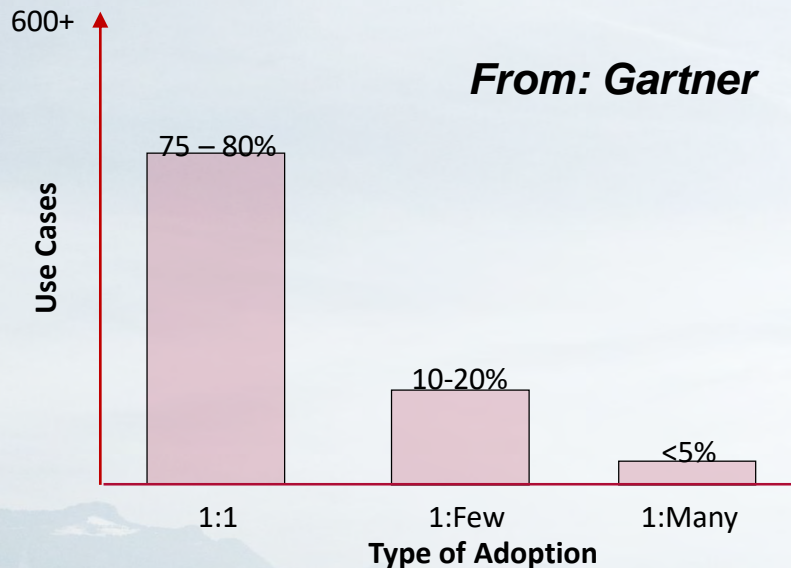
Industrial Interconnection, Intelligence Enabling the Future

HUAWEI



碎片化严重是行业面临的最大挑战

The market is slowly revealing its true value, but highly fragmented and customization heavy



	Overall	B2C	B2B (Asset-intensive)	B2B (Non-asset-intensive)
CAGR	31.9%	40.2%	18.6%	28.0%

Market Observations

- Number of **IoT use cases** is still growing rapidly; 600+ B2B use cases tracked by Gartner
- **Very few use cases have achieved replicated adoption yet** (1:many > 20 customers)
- **Highly fragmented market** with 400+ players
- Market players seeking market share through **pilot/incubation programs, partnering and aggressive discounting policies**
- Most customers still **lack converged IT/OT sourcing capabilities** and governance which lengthens sales cycles and slows market adoption

聚焦可规模复制的场景和案例，为最终客户提供价值 must focus on fewer replicable use cases to ensure expected ROI

OT产业面临诸多挑战，OT与ICT融合，合作共赢是产业的共同期望

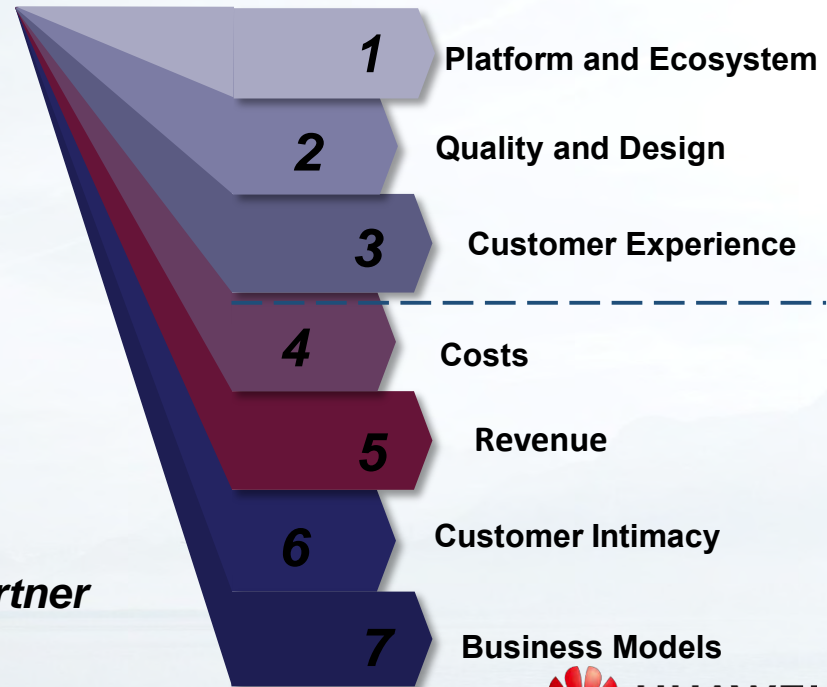
OT heavy industries like manufacturing face manifold challenges, OT and ICT collaboration in cross-industry ecosystem

Gartner Predicts

- 1 By 2020, 25% of midsize organizations engaging in digitization strategies will collaborate in **cross-industry ecosystem initiatives**, up from 10% in 2018.
- 2 By 2021, the effectiveness of manufacturing IoT initiatives will be **tracked by business outcomes** continuously through their life cycle, up from less than 20% today.
- 3 By 2022, more than 50% of all people collaborating in industrial IoT ecosystems will utilize **virtual assistants or intelligent agents**.

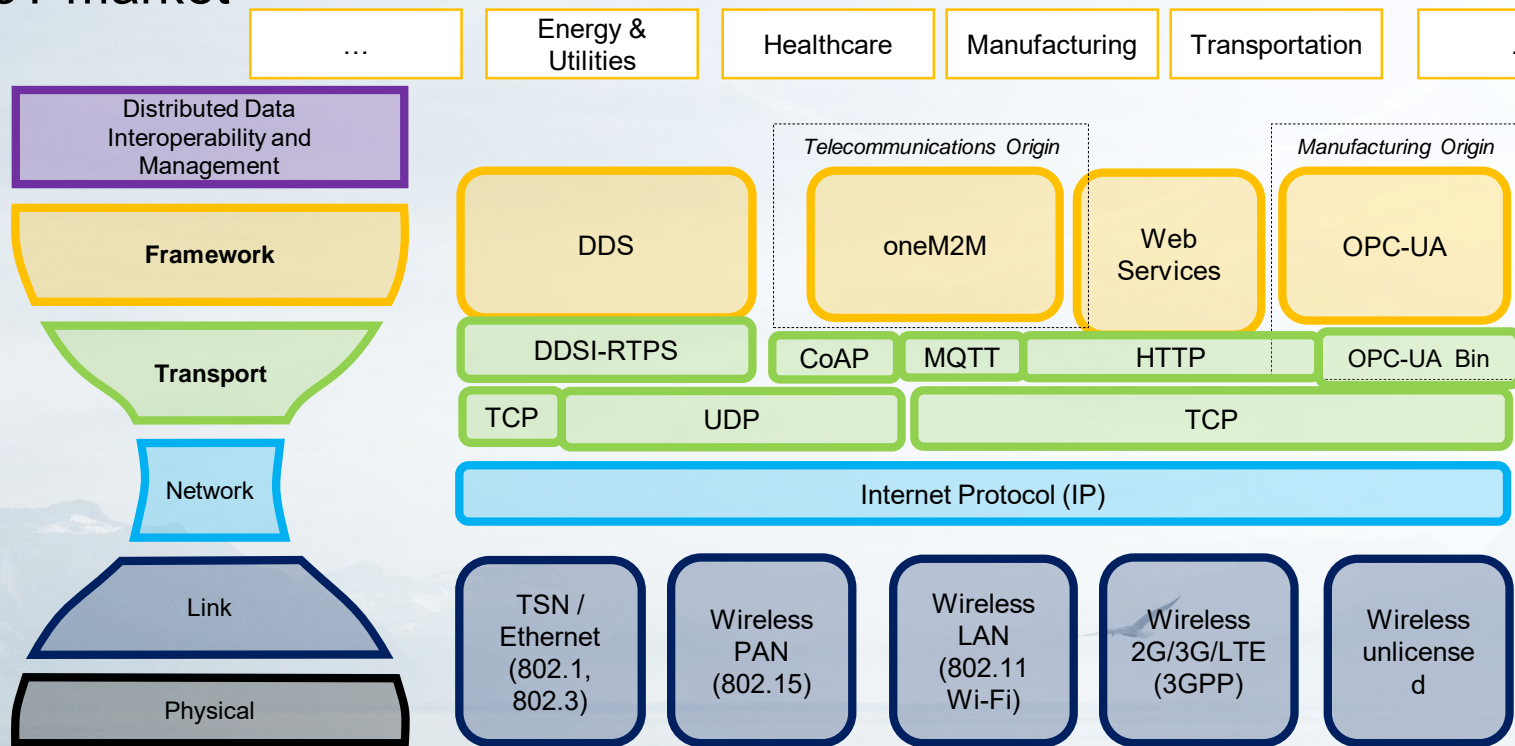
From: Gartner

Challenges



产业界共同探讨工业互联网时代新的技术架构

The industry coming together to explore new architecture for new industrial IoT market



From: IIC

面对行业诸多挑战，华为提供连接和使能平台，联合合作伙伴，面向工业企业提供基于工业场景的解决方案

Huawei Provides an Enabling Platform and Connectivity, With Joint Partners to Provide the Solutions for Industrial Enterprises

工业场景解决方案

Industry-wide and Across Domain Solutions for Industrial Enterprises

Example

行业平台

Industry Platform



PSA

流程

离散

Process Industry

Discrete industry

行业know-how

Industry Know-How



流程

离散

Process Industry

Discrete industry

应用服务

Industry Services



评测

维护

Evaluation

Maintenance



使能平台 – FusionPlant

Enabling Platform - FusionPlant



连接 – 5G/LTE-U/LTE/EC-IOT/WLAN

Connectivity – 5G/LTE-U/LTE/EC-IOT/WLAN

工业智能服务：华为数字化经验，助力企业进入智能化时代

Industrial Intelligence: enabling customer intelligent Enter the Intelligent Era

柔性质检
Flexible QC



根因分析
Root Cause Analysis



智能排产
Intelligent scheduling



预测性维护
Predictive maintenance



物料预估
Material estimation



精准营销
Precision marketing



基于企业智能EI，构筑普惠智能体

Build a common smart entity based on the smart EI of the enterprise.

企业智能的使能技术 Enterprise Intelligent Enablement Technology

驱动企业业务增值 Driving Enterprise Business Value Increase

优化算法
Optimization algorithm

优化动态规划算法，拓展应用领域：货物装箱、路径规划等

最优求解算法



语音识别
Voice recognition

业界高性能语音识别引擎

语音识别，机器学习技术



图像识别
Image recognition

基于深度学习的图像识别技术，手写数值识别准确率超过97%。

OCR单据识别技术



实时处理
Real-time processing

基于流处理技术，实现实时分析引擎，构建实时决策能力。

实时决策引擎



多维分析
Multidimensional analysis







具备千万维数据分析能力，实现复杂因素场景下的快速分析。

多场景图像重建



5G预计能满足70%以上工控场景，无线创新服务工业互联，连接人机物，助力未来无线工厂

5G wireless innovation service industrial connectivity, connecting people, machine and things, expected to cover 70% industrial automation scenarios

场景 use case	运动控制 motion control	机器间控制 Inter-machine control	移动面板 Moving Panel	移动机器人 mobile robot	大规模连接 Large connection	工业AR及监控 AR& monitor
						
对5G诉求 request to 5G	uRLLC	uRLLC	uRLLC	uRLLC	mMTC	eMBB

华为5G创新亮相
2018汉诺威自动化展
Huawei's Innovation in 5G at 2018 Hannover

华为和SMART FACTORY
联盟联合展示
Joint innovation with SMART
FACTORY



华为展台基于5G低延时的稳定球
展示 showcased the stable ball
based on the 5G low latency.



华为和BECKHOFF联合
展示机械臂同步性 Joint innovation
with BECKHOFF



华为eLTE-U工业无线专网助力生产不间断运行

Huawei eLTE-U Solution Enables Uninterrupted Hours Production



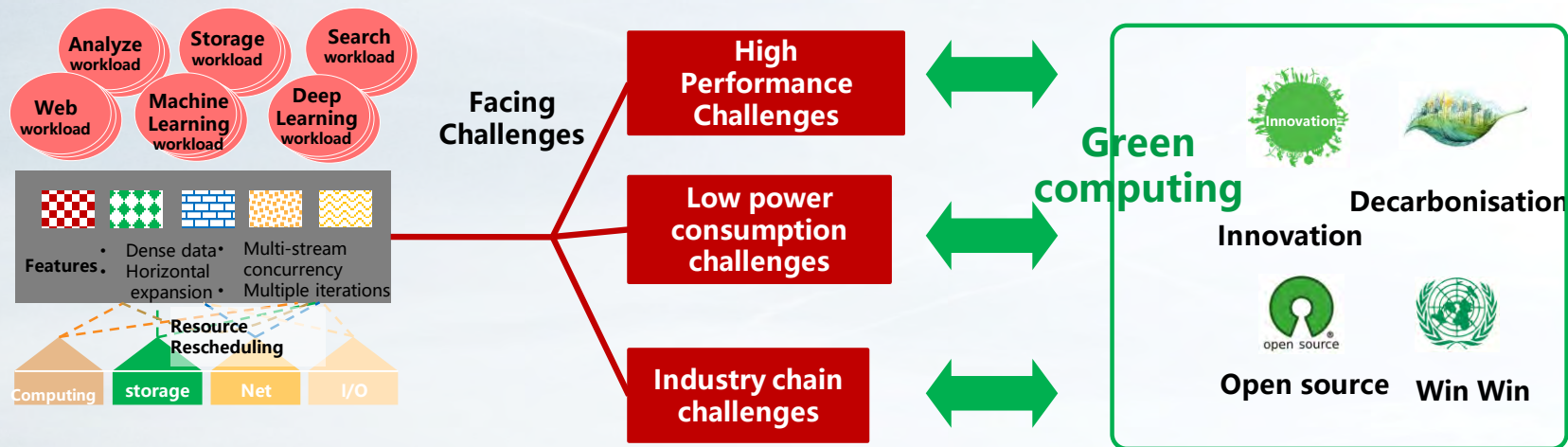
←
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东莞中外运智能仓储
Dongguan Sinotrans Warehouse



数字经济对计算提出越来越大的需求，绿色计算满足产业诉求

The digital economy raises increasing requirements for computing, Green Computing enable the industry in the Future



Cloud Data Center

**Open Edge+HPC
Initiative Alliance**

Technical seminar collaboration
Product Promote collaboration
Ecosystem collaboration



OpenGCC



华为积极参与产业组织构建，推动产业发展

Huawei Actively Participates in the Construction of Industrial Organizations to Promote the Industry Development



- 华为是AII产业联盟的**核心成员和贡献者**
- 担任了联盟副理事长、副秘书长、和多个工作组主席
- 是**工业互联网参考架构、测试床、工业互联网白皮书**等核心贡献者

- Core member and contributor
- As deputy chairman, deputy secretary general, and chairman of several working groups
- Core contributor to IIRA, Test Bed, and Industrial Internet White Paper.




- 华为是**SC执行委员会成员**，并担任**多个工作组主席**
- 贡献了国内的**第一个测试床**
- 是**网络组、边缘计算组、数据分析组**等核心贡献者

- The member of the SC Executive Committee and serves as the chair of several working groups.
- Contributed to the first test bed in the china
- Core contributors such as network groups, edge computing groups, and data analysis groups



- 华为是**发起单位**，联盟**业务设计和组织设计**的主要贡献者
- 担任**多个工作组主席**。
- 是**边缘计算参考架构1.0, 2.0**的主要贡献者
- **联盟Testbed**核心贡献者

- The sponsor, the main contributor to the organization design of the alliance business.
- Serving as chair of several working group
- The major contributor to the Edge Computing Reference Architecture 1.0, 2.0
- Alliance Testbed core contributor



我们的愿景和使命

把数字世界带入每个人、每个家庭、每个组织，
构建万物互联的智能世界。

Bring digital to every person, home, and organization
for a fully connected, intelligent world.



THANK YOU

LEADING NEW ICT

THE ROAD TO
DIGITAL TRANSFORMATION

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