Intel® Network Builders Insights Series

Reference Implementations (RIs) - Free, Customer-Deployable Apps for Customer Use Cases

- Hassnaa Moustafa, Principal Engineer, Intel Corporation

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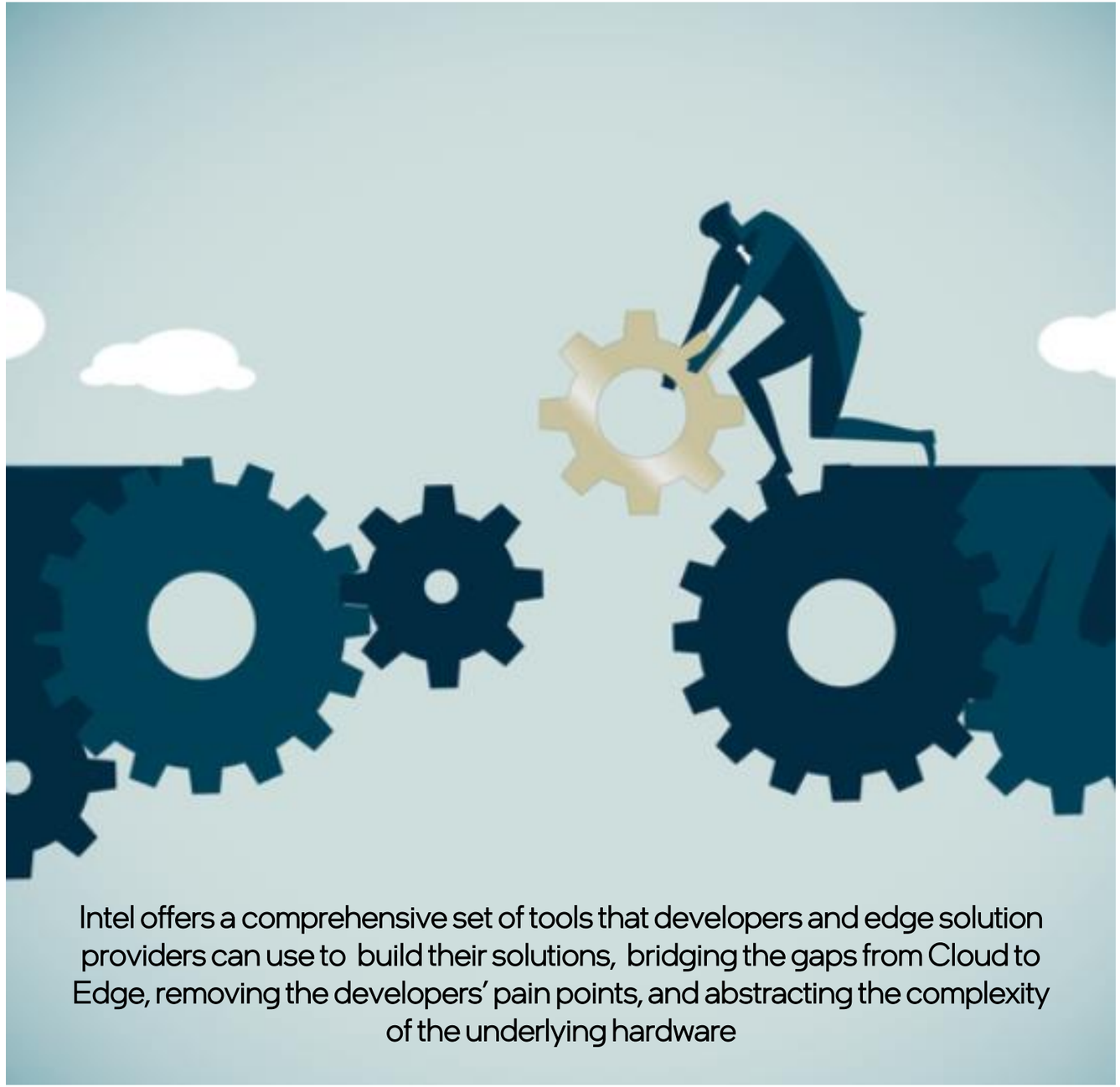
Edge Software Solutions

Opportunity and Challenge

Edge software solutions benefit from the existing cloud-native frameworks, open opportunities for new services, and allow meeting ultra real-time needs

BUT No One Solution Can Fit All

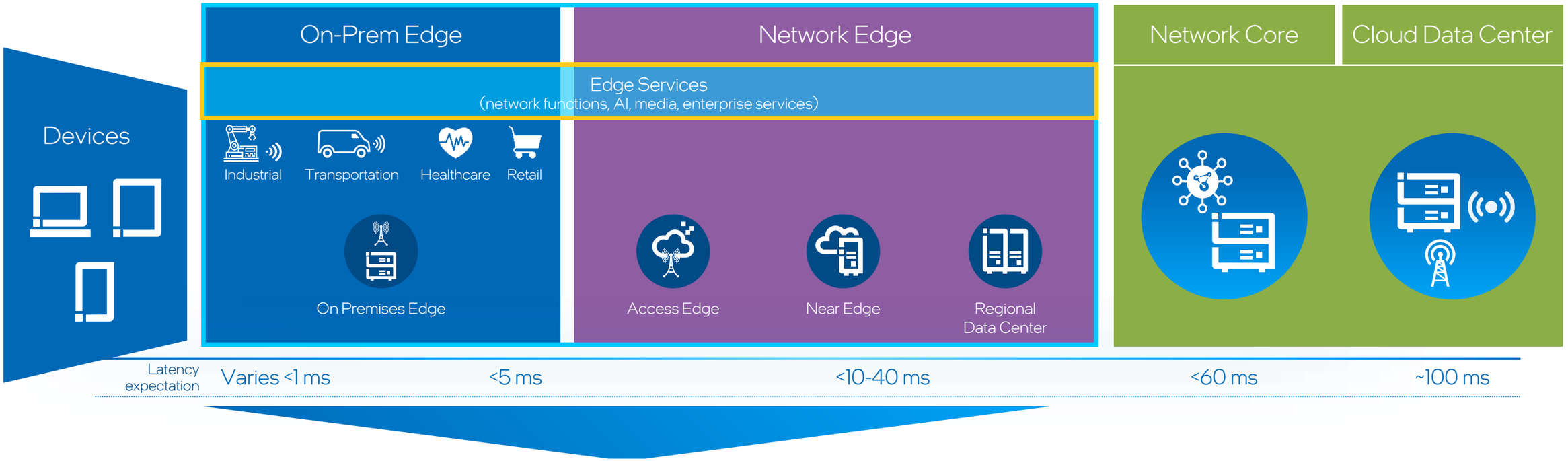
Challenges emerge due to the diverse capabilities of the edge platforms, seamless data ingestion at the edge, real-time communication from/between edge platforms, and AI workload optimization at the edge



Intel offers a comprehensive set of tools that developers and edge solution providers can use to build their solutions, bridging the gaps from Cloud to Edge, removing the developers' pain points, and abstracting the complexity of the underlying hardware

Cloud Native Edge with 5G

Delivering Cloud Native Services for the Edge



Key challenges to overcome

Edge SW solutions consistent and scalable across diverse edge platforms and location requirements

Optimize cloud native frameworks to meet stringent edge KPIs and network complexity

Leverage a broad SW building blocks from Intel, optimized for IA, to build edge services for diverse edge deployment

Cloud-Native Microservices

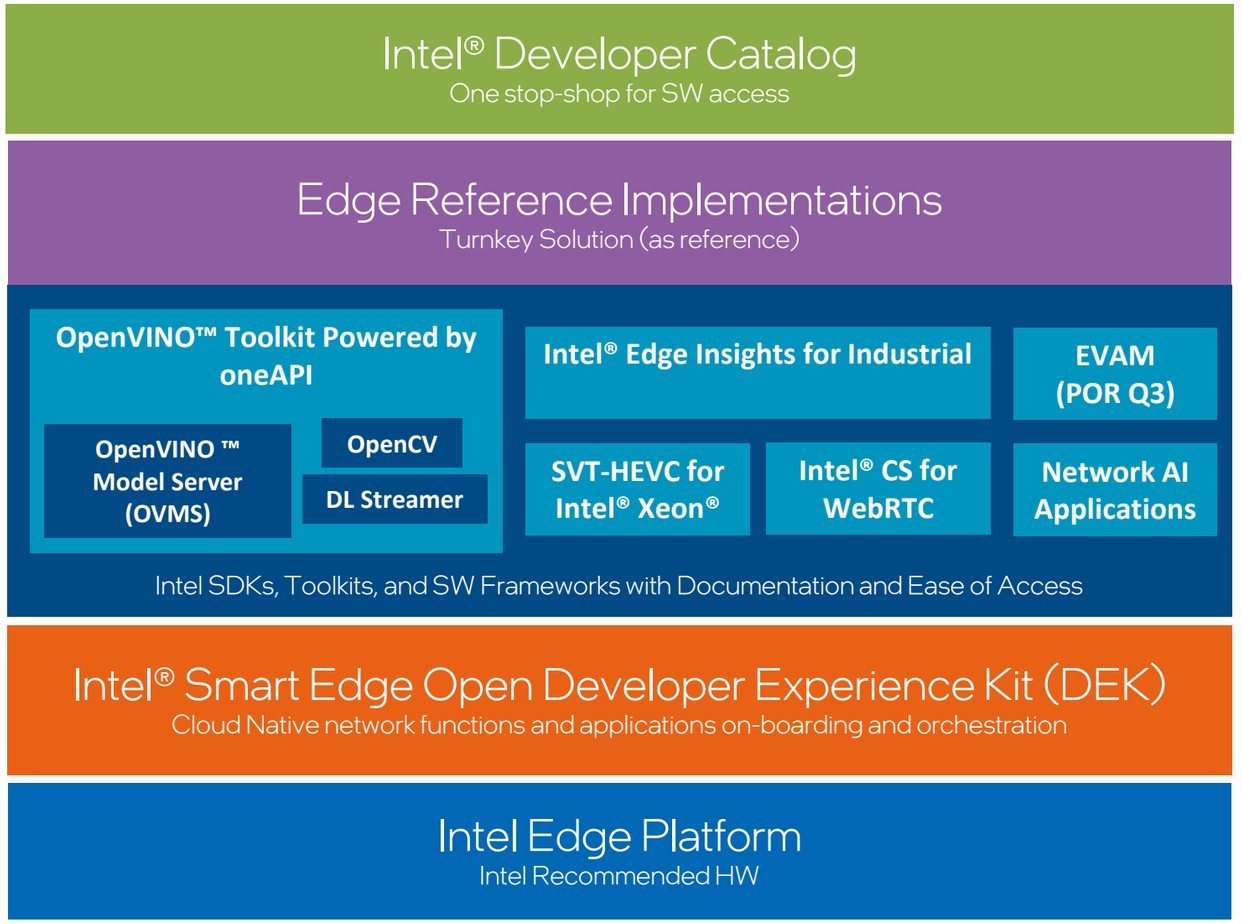
Modular Approach to Build One Edge Reference Implementations

Modularity

Horizontal building blocks
(Intel SDKs and SW toolkits)

Micro-Services-Based

AI-Inference-aaS
Real-time-communication (RTC)-aaS
Data-Ingestion-aaS
Data-Insights-aaS
RAN Intelligent Controller (RIC)-aaS
....more to come...



Access Point - Developer Outreach

Intel Developer Catalog
Intel Dev Cloud (soon)

Abstracting the complexity

Use case specific Implementation

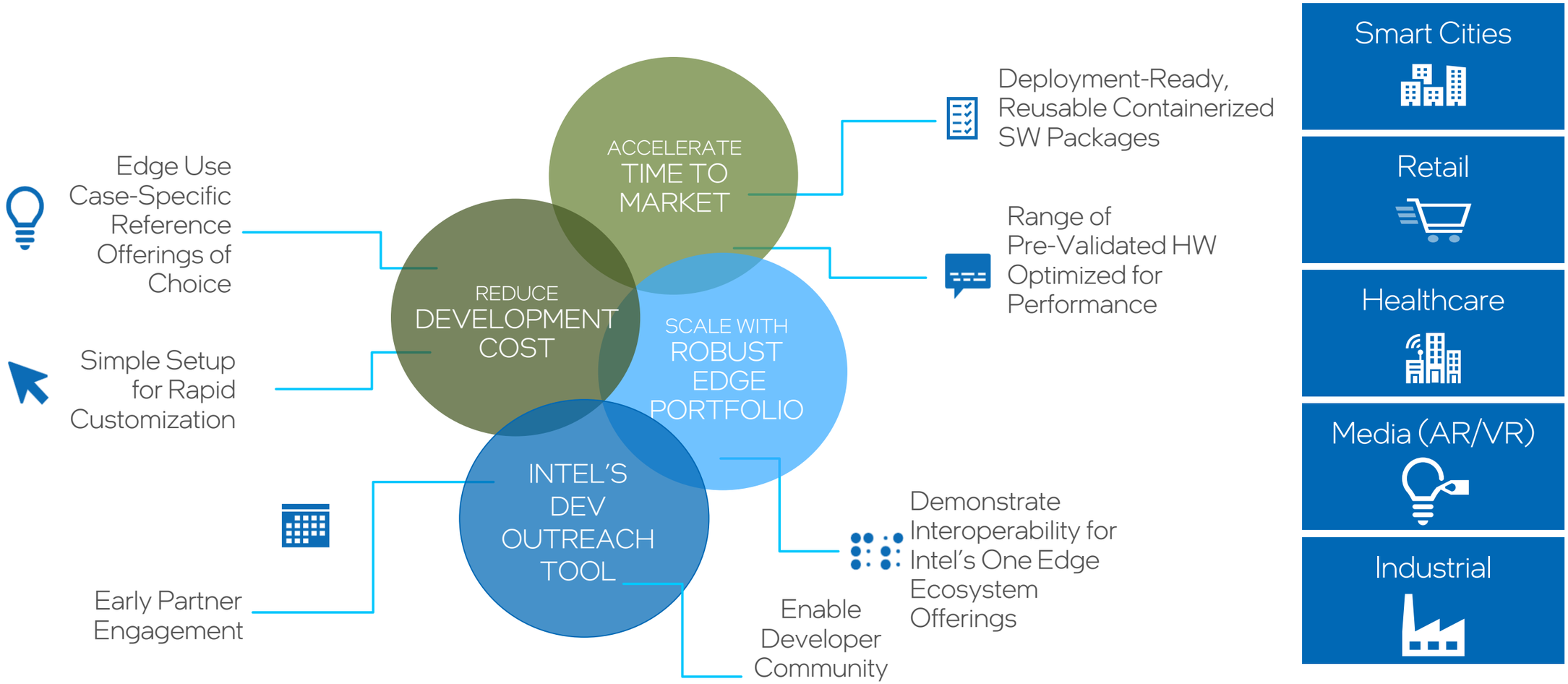
Recommended HW

Intel Edge Platforms

Delivering a comprehensive portfolio of vertical segment specific use cases as well as horizontal capabilities that can be leveraged by ISVs, ODMs, SIs, CoSP.... to accelerate exploration and development

Reduce the Development Complexity for Edge SW Solutions

Edge Reference Implementations



Reference Implementations (RIs) are a set of Intel developed, free, customer deployable apps that demonstrate a solution for a customer use case

Edge Reference Implementations

Available for Download & Consumption

Reference Implementations
Only Available in the
Intel Developer Catalog

PCB Defect Detection

Optimized video streams ingestion, edge AI inference , optimized apps on-boarding

Telepathology

AI inference, Inference scaling, reduce large storage needs for medical images, optimized apps on-boarding

Telehealth

Real-time communication, Video decode/encode SW acceleration, AI inference, optimized apps on-boarding

Immersive Media

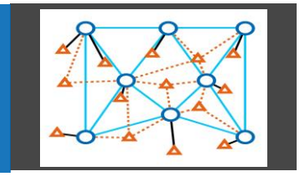
Real-time communication, 360 video decode/encode SW acceleration, 360 frames AI inference, optimized apps on-boarding

Wireless-Ready Smart Intersection

Reduced TCO, Edge AI Inference, AI models Optimization, optimized apps on-boarding

Intelligent Connection Management

Deep reinforcement learning (DRL) algorithm, graph neural network (GNN) model to implement networks



AI and Analytics Tools Applied In Reference Implementations - Big Picture

Intel oneAPI Software Tools for AI and Analytics

Intel® oneAPI Toolkits

Intel® oneAPI AI Analytics Toolkit

Accelerate machine learning and data science pipelines with optimized deep learning frameworks and high-performing Python libraries

Data Scientists, AI Researchers, DL/ML Developers

Intel® oneAPI Base Toolkit

Incl. Intel® oneAPI Deep Neural Network Library (oneDNN), Intel® oneAPI Collective Communications Library (oneCCL), and Intel® oneAPI Data Analytics Library (oneDAL)

Optimize primitives for algorithms and framework development

DL Framework Developers - Optimize algorithms for Machine Learning and Analytics

Toolkit Powered by oneAPI

Intel® Distribution of OpenVINO™ Toolkit

Deploy high performance inference and applications from edge to cloud

AI Application, Media, and Vision Developers

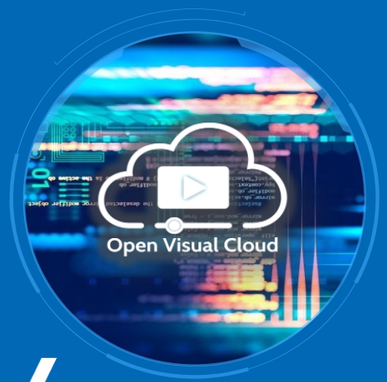
OpenVINO™

Intel® Developer Catalog

Vision | Retail | Industrial | Cities | Healthcare

✓ Deep Learning Acceleration

✓ 5G Network Transformation



✓ Media Experience Evolution

....and more

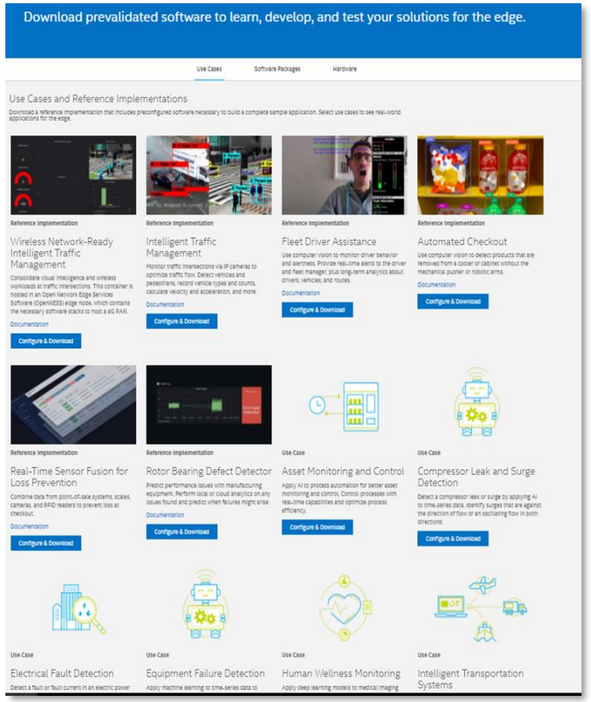
✓ Edge and Cloud Orchestration

✓ Multi-Cloud Capability

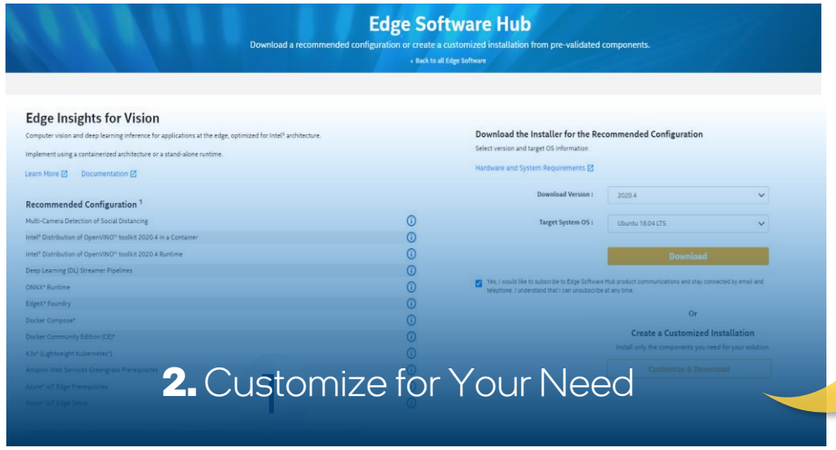
✓ Open-Source Collaboration

✓ Hardware Scalability and Developer Kits of Choice

A Look Inside: Intel® Developer Catalog

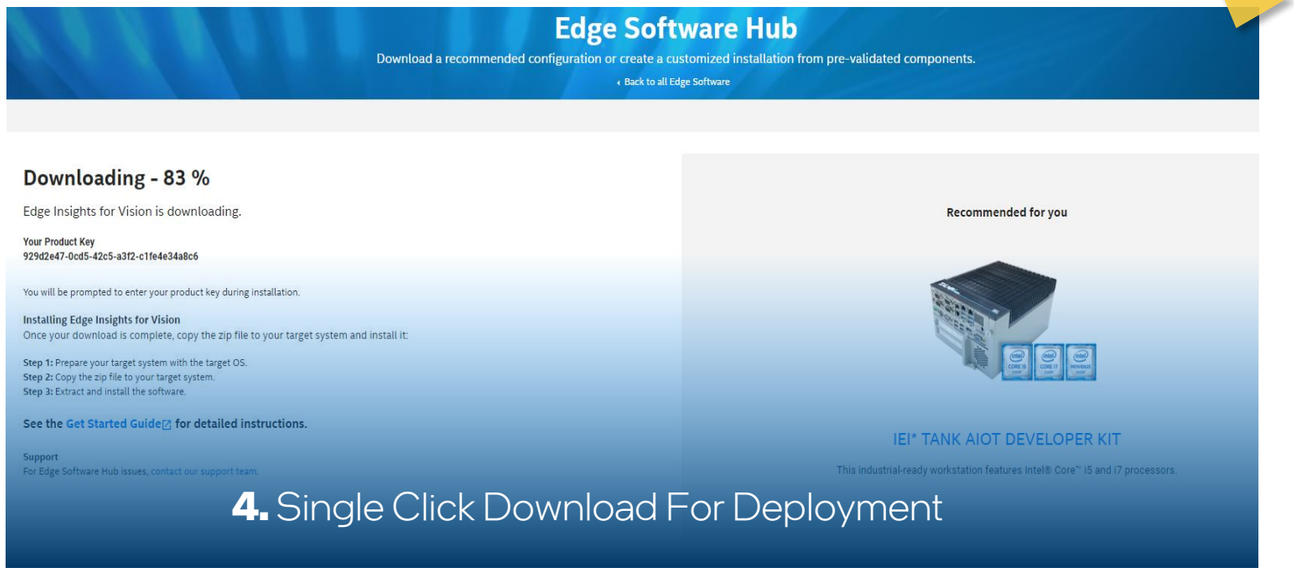


1. Select Use Cases or Packages



2. Customize for Your Need

3. Accept Evaluation License



4. Single Click Download For Deployment

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Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

Your costs and results may vary.

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Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy.

Product plans, dates, and specifications are preliminary and subject to change without notice

GET STARTED TODAY WITH EDGE AND 5G SOFTWARE AND TOOLS

INTEL® DEVELOPER CATALOG

DEVELOPER.INTEL.COM/DEVCATALOG

Questions?

Xiaojun (Shawn) Li, Sales Director, Next Wave OEM & eODM
Xiaojun.Li@intel.com

Hassnaa Moustafa, Principal Engineer
hassnaa.moustafa@intel.com

Join Us Next Time

August 3rd @ 8am PDT


intel