

第3回 AI@Work Conference

# AI×IoT×PMの実践

# The AIoT Playbook

## 概要

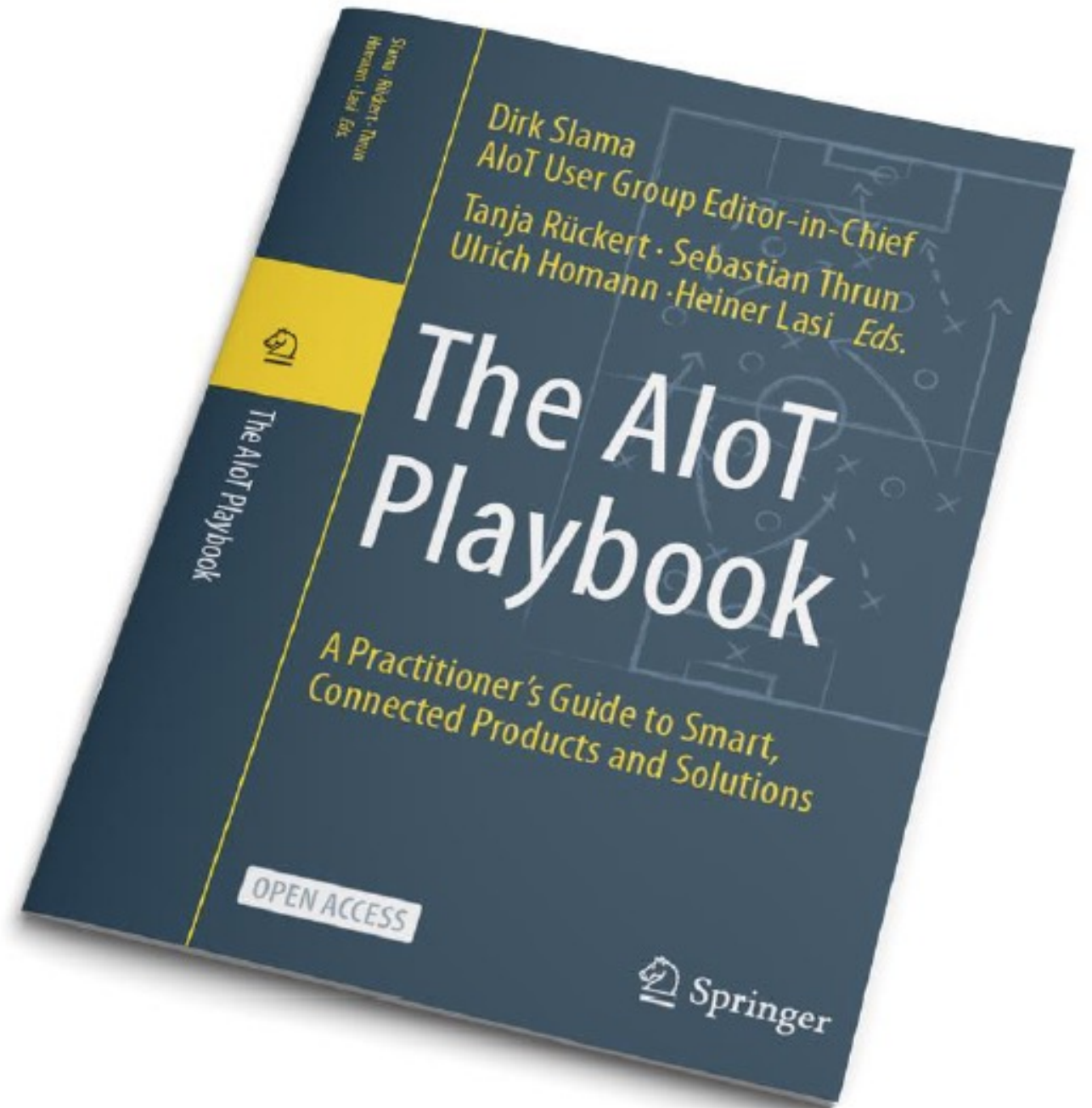
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2021年11月13日

武上 弥尋 PMP, CSM

AI@Work Study Group 代表

PMI日本支部



# The AIoT Playbook 紹介の経緯



**The AIoT Playbook** [https://www.aiotplaybook.org/index.php?title=The\\_AIoT\\_Playbook](https://www.aiotplaybook.org/index.php?title=The_AIoT_Playbook)  
**AIoT User Group** <https://aiotug.org/index.html>

- PMI AI Knowledge Network 10/1会議での紹介
  - PMI Global Executive Councilでの活動の一環 (Co-Leadとして武上が参画中)
- 紹介者はDirk Slama氏 (当PlaybookのEditor-in-Chief およびIgnite AIoT WG Lead)
  - BOSCH社Vice President & Research Fellow at Ferdinand-Steinbeis-Institute
- 2021年9月発行のPlaybookは、現在v0.9.7で全294頁、近々v1発刊予定
  - CC BY 4.0 (クリエイティブ・コモンズ 表示) を用いたオープンソースのコンテンツとして開発

**AI×IoT×PMでの  
実践的内容**

**海外では具体的指針の  
整備が続々と進行**  
(ガンバレ！日本の製造業！)

**Where AI and IoT  
practitioners share  
experience and  
good practices**



# AIoT User Groupとは?

2020/1 Bosch ConnectoryでのWorkshopを契機に開始、Europe/Asean/China/USAに支部

## AIoT User Group – Initiators & Leadership



**DIRK SLAMA**  
Vice President Bosch,  
Fellow at Steinbeis  
FSTI



**LAURENZ KIRCHNER**  
Managing Partner,  
mm1



**MARC GROSSKOPF**  
Global Business Unit  
Manager, TÜV SÜD



**MARC HABERLAND**  
CEO, Clariba



**TORSTEN WINTERBERG**  
Director, Opitz Consulting

Initiated by practitioners from Accenture, Bosch, Clariba, Deutsche Post, Evaco, mm1, Opitz, Recogizer, TH Köln and Tomorrow Labs, hosted by Ferdinand-Steinbeis-Institut.

The Steering Committee is elected by the contributing participants of the AIoT User Group

## Editorial Board – AIoT Framework



**Tanja Rückert**  
(Chairwoman of the Editorial Board)  
Group CDO,  
Robert Bosch GmbH





**Prof. Jan Bosch**  
(Scientific Advisor)  
Professor at Chalmers University,  
Director of the Software Center





**Sebastian Thrun**  
President, Udacity |  
CEO, Kitty Hawk





**Prof. Heiner Lasi**  
(Scientific Advisor)  
Director,  
Ferdinand-Steinbeis Institut





**Ulrich Homann**  
Corporate Vice President,  
Microsoft





**Dirk Slama**  
(Editor-in-Chief)  
Vice President at Bosch | Research Fellow  
at Ferdinand-Steinbeis Institut






## AIoT ASEAN User Group – Initiators & Leadership



**CK VISHWAKARMA**  
CEO,  
AllThingsConnected



**THOMAS JAKOB**  
Regional President  
Asia Pacific, Bosch IO



**MARTIN SAERBECK**  
CTO Digital Service,  
TÜV SÜD



**SACHIN GUPTA**  
Business Director - AIoT,  
ASM Pacific Technology




**TARANJOT GULATI**  
Solutions Lead Asia Pacific,  
CBRE Host


Initiated by practitioners from AllThingsConnected, ASMPT, Bosch, CBRE, and TÜV SÜD; hosted by AllThingsConnected


The Steering Committee shall be elected by the contributing participants of the AIoT User Group

## Editorial Board – AIoT Framework





**Ken Forster**  
Executive Director,  
Momenta Partners







**Pijth Banerjee**  
Chief Technology Officer, ANSYS |  
Board member at Cray and CUBIC







**Zara Riahi**  
Founder and CEO,  
Contilio






**Nik Willetts**  
President and CEO,  
TM Forum



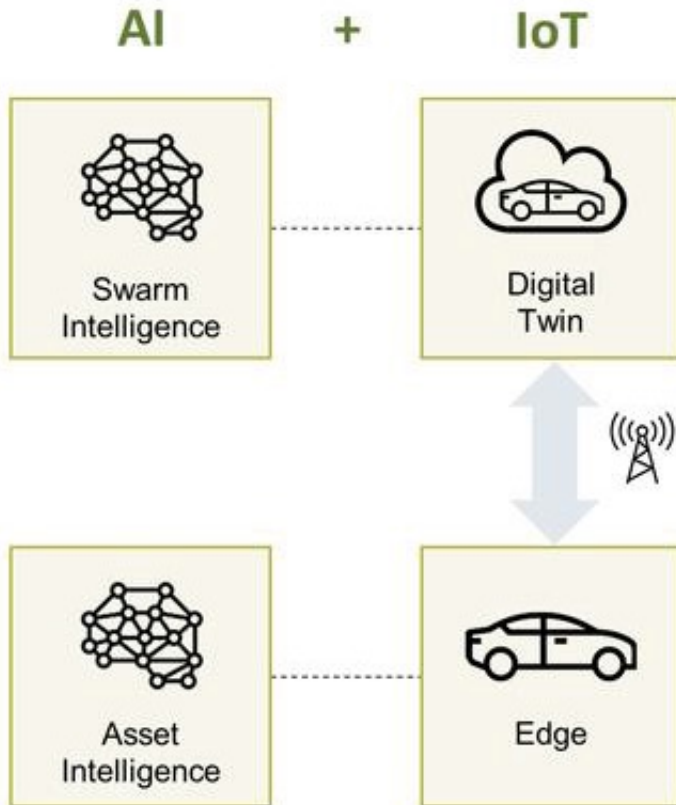


**Dominic Kurtaz**  
Managing Director EuroCentral,  
Dassault Systems




# AIoT Framework

AIoTは、今後10年でゲームを変える2つの技術、AIとIoTの組み合わせ  
AIとIoTを用いた、スマートで接続された製品を構築するために、必要なガイダンスを提供



aiotplaybook.org

## Expert Opinion



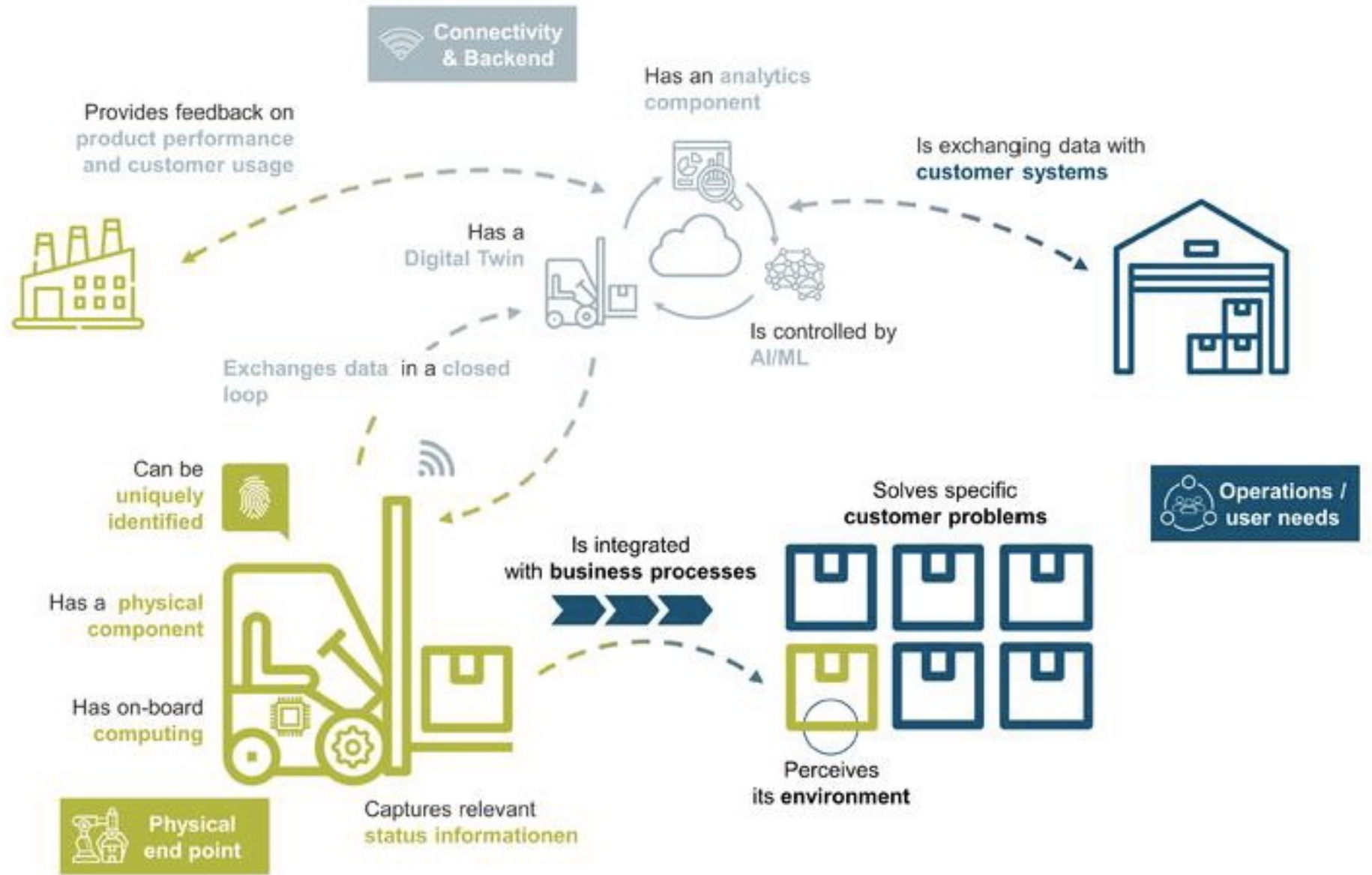
*„AIoT combines the two game-changing technologies of this decade: Artificial Intelligence and Internet of Things. The **AIoT Framework** provides much needed guidance for building smart, connected products with AI and IoT.“*

**Sebastian Thrun**  
President, Udacity | CEO, Kitty Hawk

Sebastian is the founder, chairman, and president of Udacity, whose mission is to democratize education. He is also the CEO of Kitty Hawk, whose vision is to free people from traffic. Sebastian was the founder of Google X, where he led the development of the Google self-driving car (today Waymo), Google Glass, and other projects. As a professor at Stanford University he led the Stanford Racing Team, whose “Stanley” won the DARPA Grand Challenge.

# AIoT Vision

スマート & 相互に接続された デジタル機器の要素 – AIoTによって強化

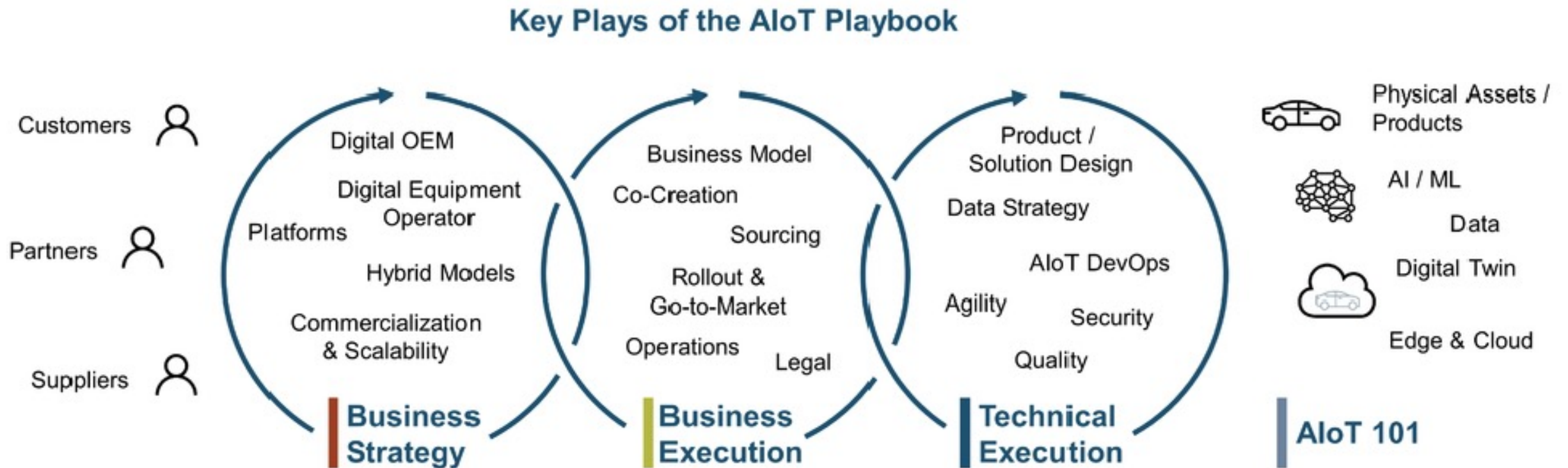


The physical product in the 21st century:  
smart & connected element of digital offerings – powered by AIoT

# The AIoT Playbook 概要

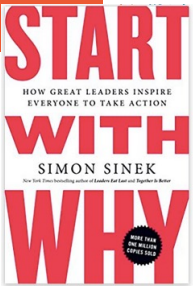
AIoT対応の製品・ソリューションを作成・運用するための、全体的・現実的なアプローチを支援

- **AIoT 101** 入門編、主要な概念の共通用語や理解を提供 (AI, IoT, Data etc.)
- **Business Strategy** AIoT対応の製品とサービスに適した戦略とは何か
- **Business Execution** 設計から調達・運用まで、ビジネス面でAIoTをどう主導するか
- **Technical Execution** AgileからアーキテクチャーやDevOpsまで、技術面でどう主導するか



# AIoT 101 概要

Why/What/Who/How : 入門編となる情報を4つの視点で整理  
(Simon Sinek "Start with Why"に触発)  
AI, Data, Digital Twin, IoT, HW について101の解説



## AIoT 101: What, why, how, who?



Artificial Intelligence 101

Data 101

Digital Twin 101

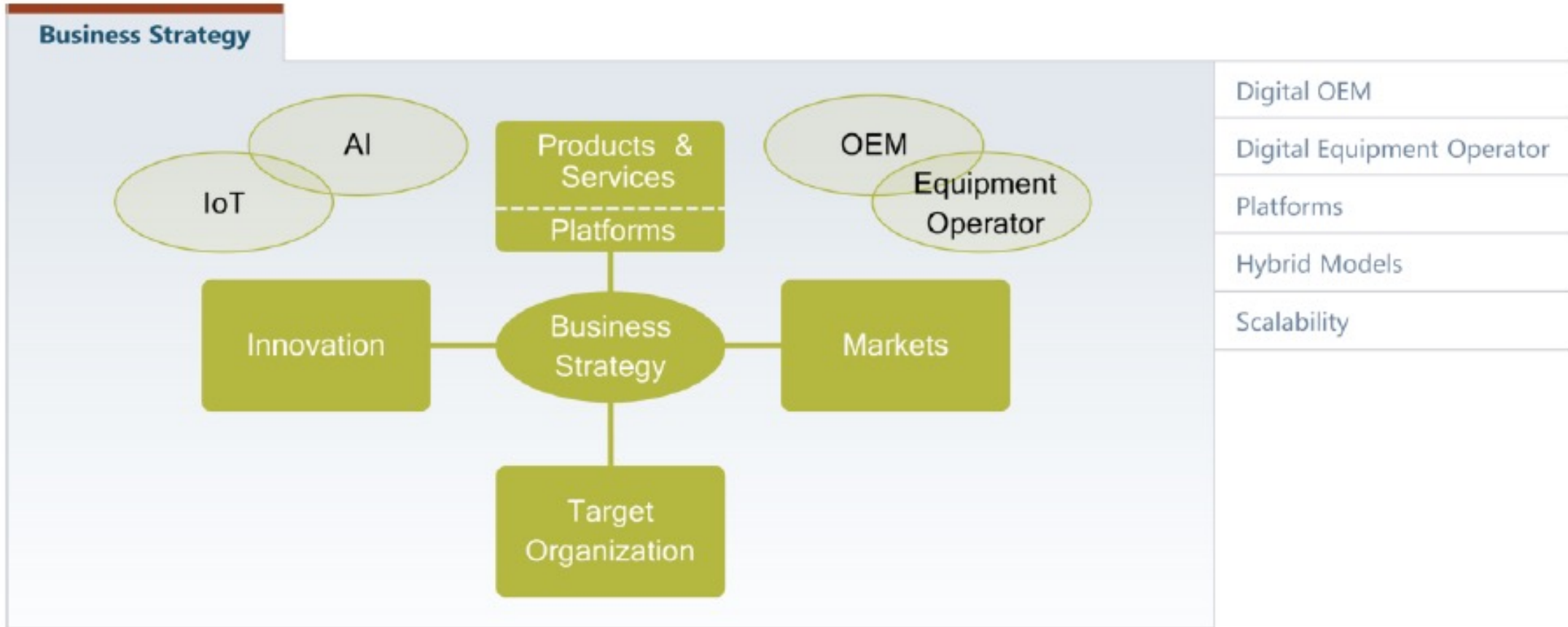
Internet of Things 101

Hardware 101

**Why** 目的・成果  
**What** 達成する対象  
**Who** 役割・責任  
**How** 実行・デリバリ

# Business Strategy 概要

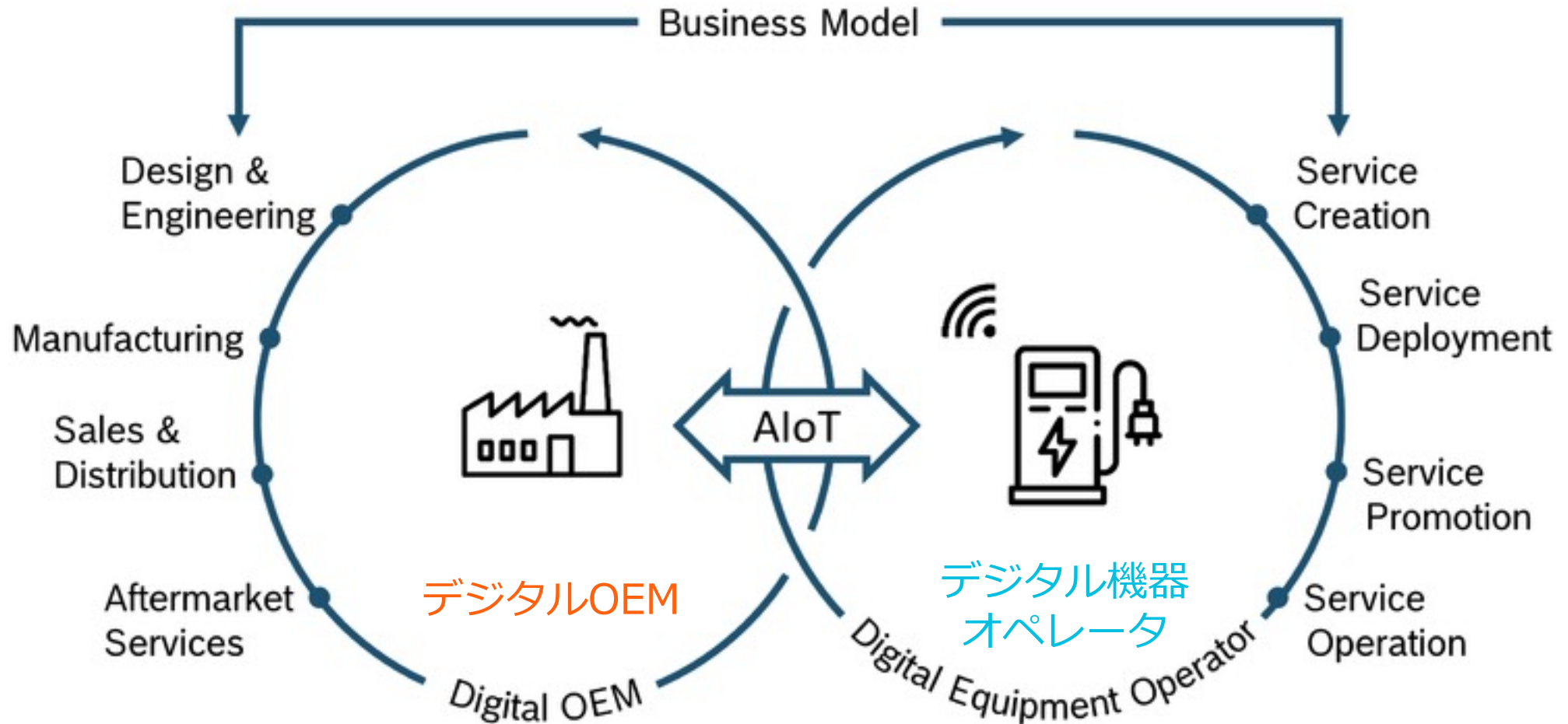
デジタルOEM、デジタル機器オペレータ、プラットフォーム、ハイブリッドモデルのWhy/What/How、およびスケーラビリティについて解説





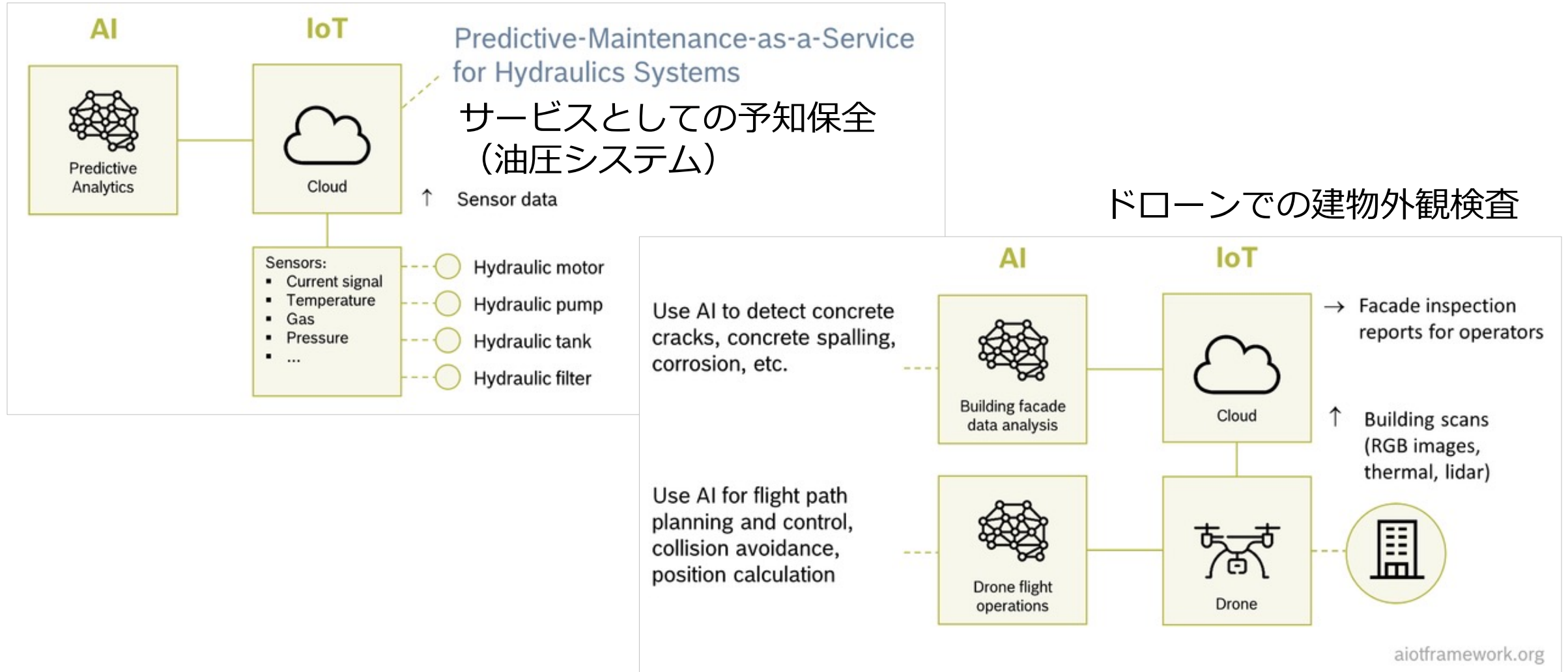
# ハイブリッドモデルとは？

デジタルOEMと主要なプロセス × デジタル機器オペレータの主要なプロセス の組み合わせ  
収益とOEE（Overall Equipment Effectiveness: 設備総合効率）を目指す



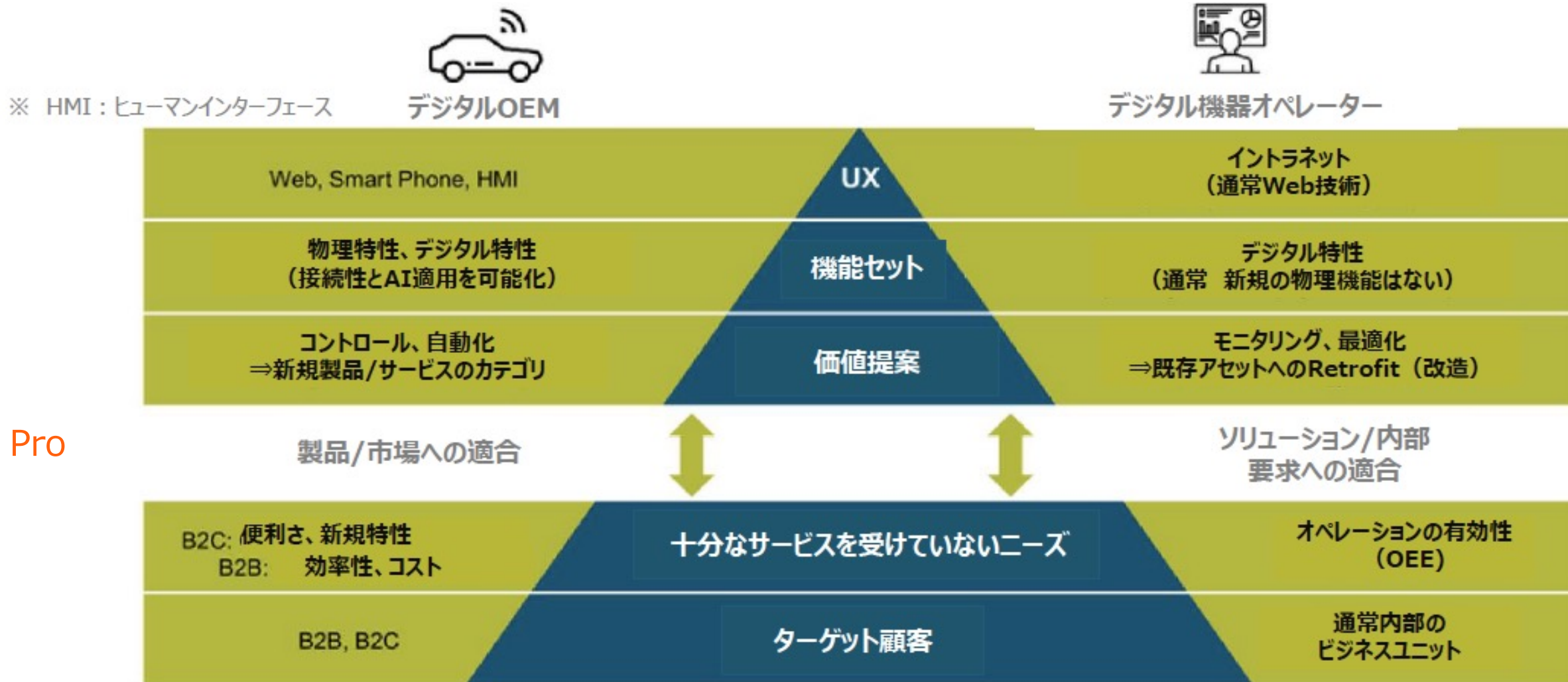
# 例) ハイブリッドモデルとは

AIoT Playbookでは、ハイブリッドモデルとして、予知保全と建物外観検査を例示

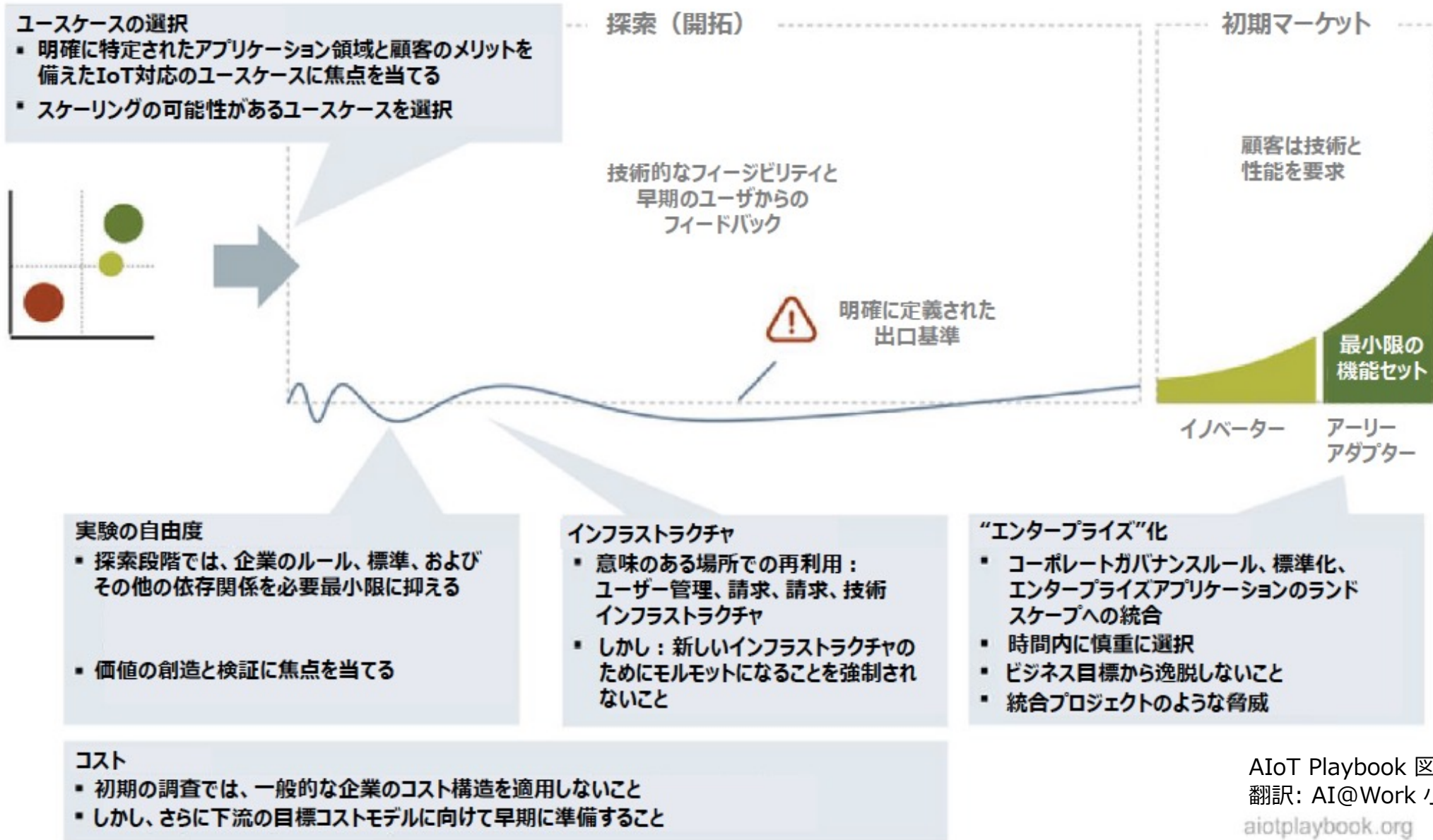


# スケーラビリティ：市場への適合

スケーラブルなハイテクビジネスを成功させるには、変化するニーズへの対応・適合が必要

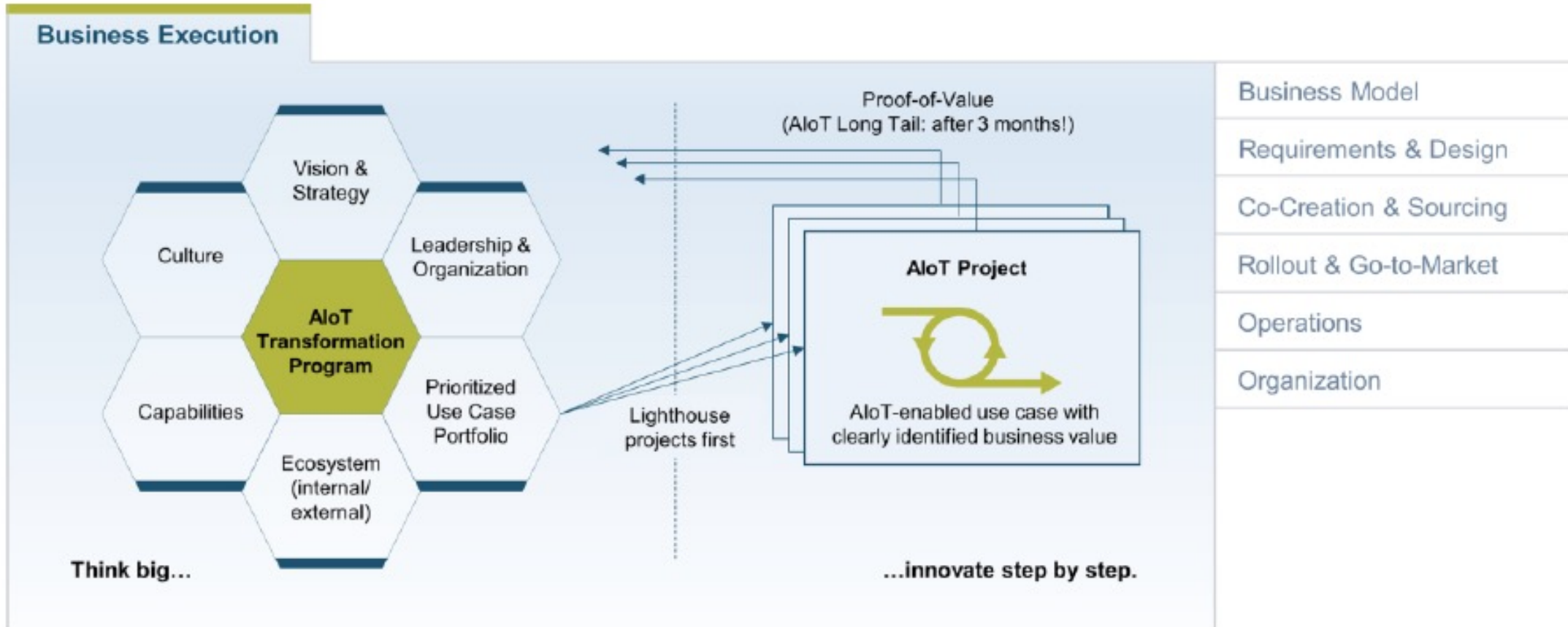


# スケーラビリティ：有効なAIoTの開拓とは？



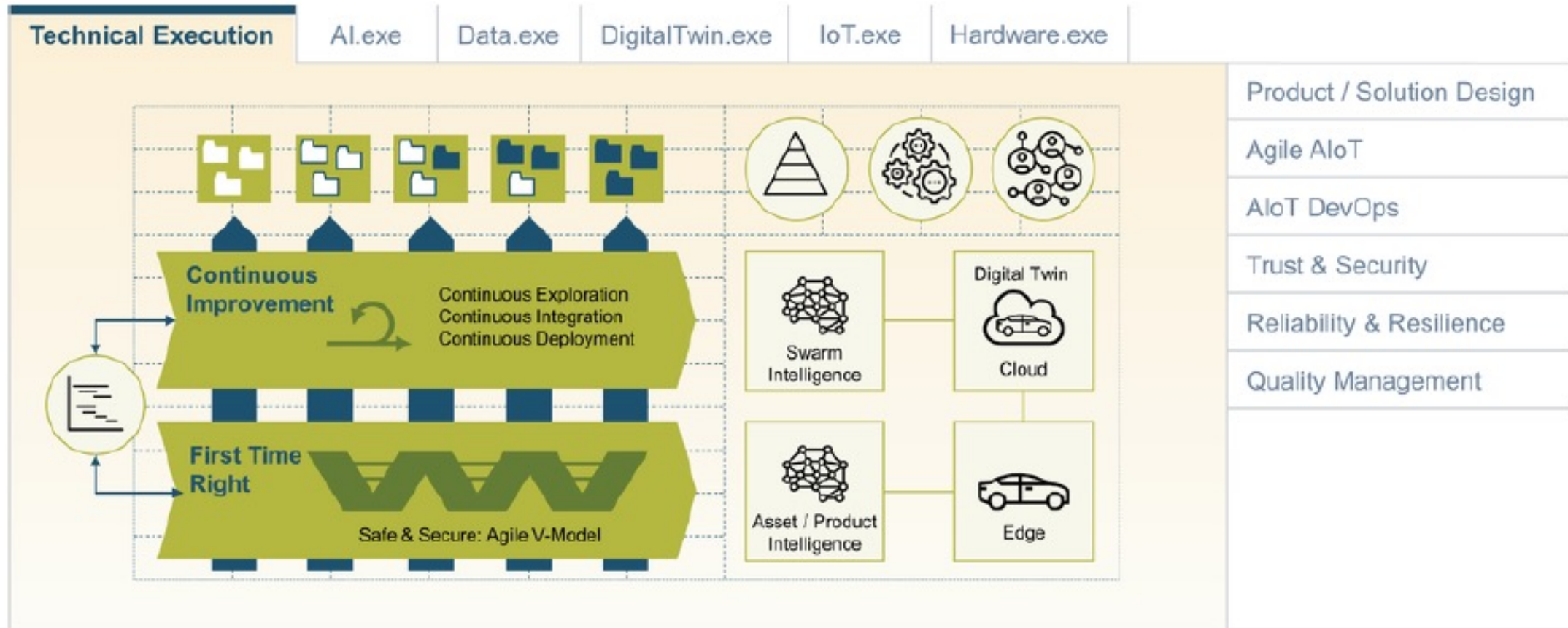
# Business Execution 概要

AIoT対応のビジネス戦略を、実際に実装する方法についてのガイダンスを提供  
ビジネスモデル・デザイン (Business Model), 製品/ソリューションの設計 (Requirements & Design),  
共創とソーシング (Co-Creation & Sourcing), ロールアウトと市場参入 (Rollout & Go-to-Market),  
オペレーション (Operations). 組織 (Organization) の6つの領域で考慮点を整理



# Technical Execution 概要

AIoT対応の製品・ソリューションに関し、技術的な実行(.exe) の観点から整理  
AIoT製品・ソリューションの設計 (Product/Solution Design), AIoTのアジャイルアプローチ (Agile AioT),  
信頼とセキュリティ(Trust & Security), 機能の安全性(Reliability & Resilience), 品質管理 (Quality Management)  
AI.exe, Data.exe, DigitalTwin.exe, IoT.exe, Hardware.exe で進め方の考慮点を整理



# ここがスゴイ! The AIoT Playbook



- 各社・研究所の**精鋭**による**要点を俯瞰**した専門解説
- 専門分野を持ち寄って作成、編纂**11名**、主貢献者**35名**、専門家ネットワーク**36名**
- 概説（101）と実践・経験を、**総合的・体系的**に整理
- **全294頁**に**311の図表**、わかりやすく美しい豊富な図、図式化によりさらに理解が深耕
- **常に最新版を公開・共有**していく編集方針およびフォーマット

## ここがスゴイ! AIoT User Group

- 3つのWG
  - Community WG
  - Case Study WG
  - Ignite AIoT WG
- **誰もが参加できる  
オープンなコミュニティ!**

(日本人はまだいない…)

### Roles

<https://aiotug.org/governance.html>

Role	Description	Rights
Participant	The AIoT User Group is an open organization, everybody is welcome to participate. There is no formal membership.	Contribute to the User Group work, become Active Contributor.
Active Contributor	Must have made at least one significant contribution(*) towards an AIoT User Group deliverable in the last 12 months	Voting right for StC election
Steering Committee Member	Elected member of the AIoT User Group StC	Strategic direction setting and shaping of the organization, including Work Groups
Founder	The initiators (companies and individuals) who helped getting the AIoT User Group off the ground in the first year	Get special mention in some AIoT User Group promotions. Have permanent Active Contributor rights.

(\*) Significant contribution: Can be co-authorship of a whitepaper or use case documentation, contribution to the Ignite AIoT Playbook, or contribution to the community WG (e.g. co-organization of an Ignite Talk or AIoT Bootcamp). Confirmed by at least one StC member.

**PM4AI**



Project Management  
for AI

**AI4PM**



AI for  
Project Management

**AIK4PM**



AI Knowledge for  
Project Managers