AI Level Definition in Project Management (Supplementary Materials)

※ **1** In this document, we will explain AI level definitions and abbreviations.

Assignment

In increasingly diverse projects, differences in participants' industry backgrounds, management skills, and knowledge can lead to varying interpretations of implementation methods and the content of discussions.

I would like a system that automatically provides alternative schedule options when rescheduling is necessary.

It seems like that could be resolved without using AI, doesn't it?

When automating project management activities, debates around "how" and "to what extent" automation should be implemented can result in significant gaps in understanding and perception.

I would like a system that issues alerts for potential risks and suggests appropriate countermeasures.

How are risks stored in the system? I wonder if data cleansing or natural language processing would be required.

A common standard and framework are necessary to establish a shared understanding and facilitate productive discussions.

Project Manager

AI System Engineer

Solution Ideas

With a shared standard and framework in place, communication becomes much more effective and coherent!

I would like a Level 2 schedule automation system that automatically suggests schedule adjustments when the SPI exceeds a predefined threshold.

Let's integrate an SPI monitoring batch process and scheduling logic that triggers automatic adjustments based on the batch results into the current scheduling tool!

I need a system that can issue a "risk alert" and propose countermeasures if any content in the weekly report corresponds to previous non-conformities. This might be classified as Risk Automation Level 3 or 4, but I recommend conducting a feasibility study to confirm this.

For the non-conformance registration system, since the type of issue can be selected from predefined categories, it can generally be managed at Level 3. However, for language processing in weekly reports, let's validate the capabilities with real data to determine the necessary scope of development.

Project Manager

AI System Engineer

Agenda

1. What is the AI Level Definition?

2. Background of the AI Level Definition Development

3. How was the AI Level Definition developed?

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## 3. How was the AI Level Definition developed?

Overall structure of AI level definitions

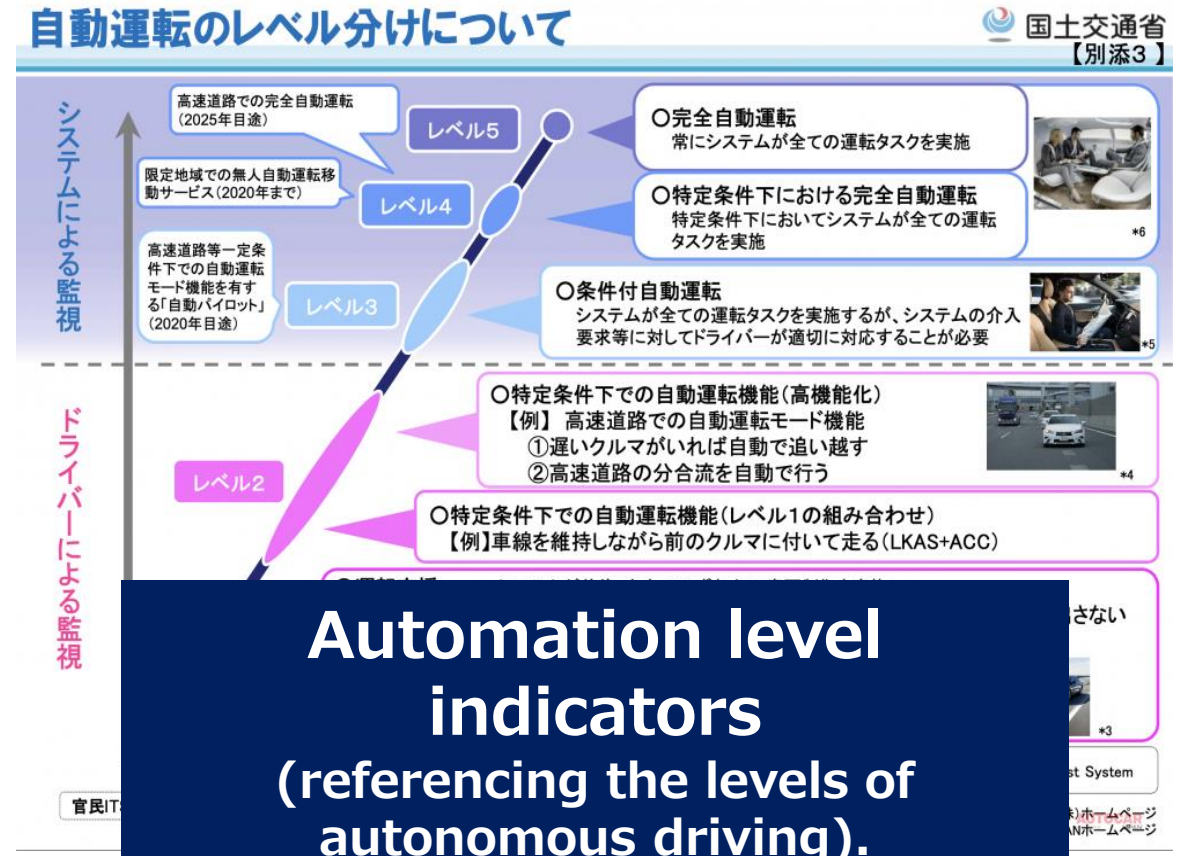"Automation Level Indicators" for "Project Management Tools and Techniques"
⇒ Indicators that clearly classify the level of automation in project management activities.

Ministry of Land, Infrastructure, Transport and Tourism Autonomous Driving Strategy Headquarters, 1st Meeting (December 9, 2016)
Distributed Materials
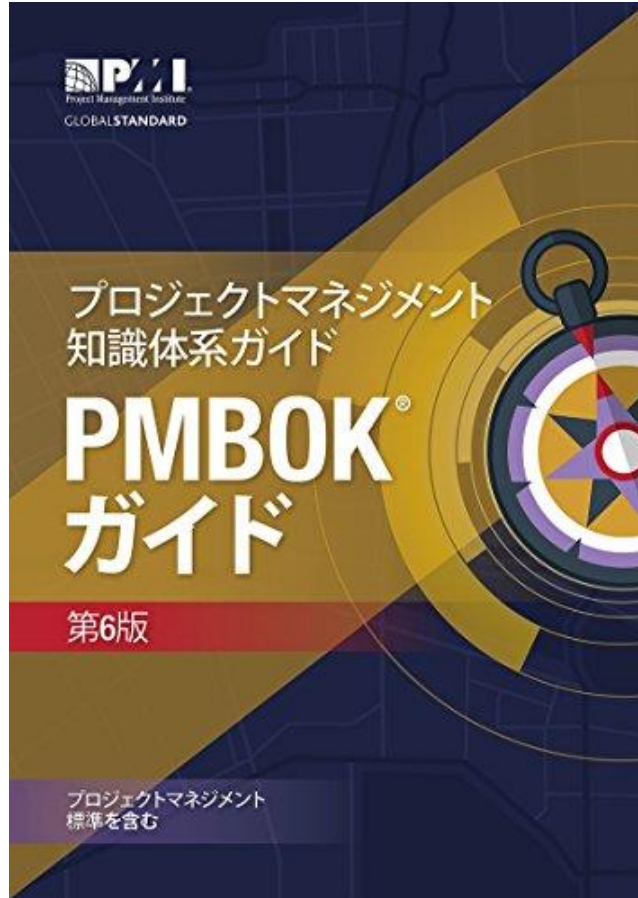https://www.mlit.go.jp/common/001155023.pdf
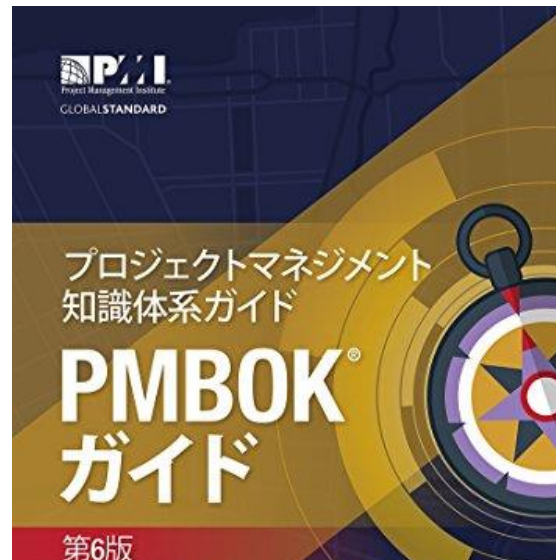
Project management methodology
(adopting the 6th edition, which organizes techniques by knowledge area).

Automation level indicators
(referencing the levels of autonomous driving).

Features 1 : Definitions are provided for each knowledge area of project management.

Features 2 : Criteria for automation are established, which serve as benchmarks for classification.

The levels of automation

Level 0	Information management only, without control.
Level 1	Operates with simple control algorithms.
Level 2	Chooses parameter combinations based on the situation.
Level 3	Increases response patterns as the user of the AI specifies learning methods.
Level 4	Tests hypotheses and learns continuously from data to enhance response patterns.

Features 3 : The classification criteria and examples are designed to be accessible and understandable for a broad audience.

Examples of entries in the project schedule management knowledge area

Level	Concept	Example
Level 0	Only individual task schedule information is managed. When the schedule for each task is updated, the revised information can be viewed, but the overall impact on the entire schedule cannot be determined.	· Create and update task lists. · Set deadlines for individual tasks. · When the project schedule is updated, it is necessary to manually update the schedule information for the affected processes.
Level 1	hen the schedule is updated, the affected processes are identified, and adjustments are made automatically.	· If the workload of the process owner exceeds capacity, the schedule is automatically extended. · When the schedule is changed, the system automatically selects feasible schedule options, such as setting executable dates within the deadline for the affected processes.
Level 2	If sch auton appro	· If the SPI (Schedule Performance Index) exceeds the threshold, the system au rocess or to address t lation between workl
Level 3	Base predic and e	· ased on the as EVM (Earned Value occurred after previous ther process exten tion and implements the necessary actions.
Level 4	In addition to past schedule updates, if project-related information is provided, the system automatically identifies relevant features, predicts potential threshold breaches,	· By identifying the correlation between failed risk mitigation efforts and the characteristics of process owners, the system predicts potential schedule delays, evaluates multiple options, and determines whether extending the process or using overtime is the optimal

The concept of automated processes aligned with different automation levels makes the classification criteria clearly understandable.

Concrete examples of automated processes at each level allow for more precise identification and differentiation.

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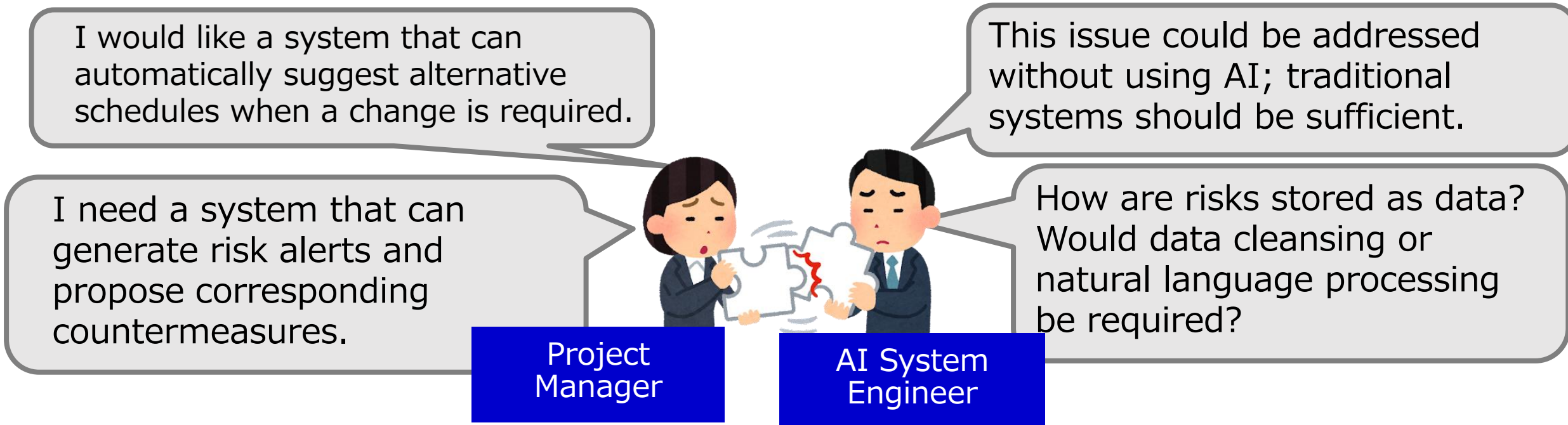
3. How was the AI Level Definition developed?

A Discussion on AI Implementation (Examples of Miscommunication)

[Differences in Problem Awareness]: Different industries have varying perspectives and focus points when identifying issues.
[Differences in Solution Approaches]: Solving complex problems requires knowledge of multiple solution methods, which can vary widely.
**[Differences in Data Environments]**: The nature of accumulated data differs significantly, so comprehensive validation is necessary for effective implementation.

> I would like a system that can automatically suggest alternative schedules when a change is required.

> This issue could be addressed without using AI; traditional systems should be sufficient.

> I need a system that can generate risk alerts and propose corresponding countermeasures.

> How are risks stored as data? Would data cleansing or natural language processing be required?

Project Manager

AI System Engineer

If we continue like this, our discussions will remain unaligned and unproductive.

Insights from the Review Results

It is necessary to establish a framework for conversations before introducing AI.
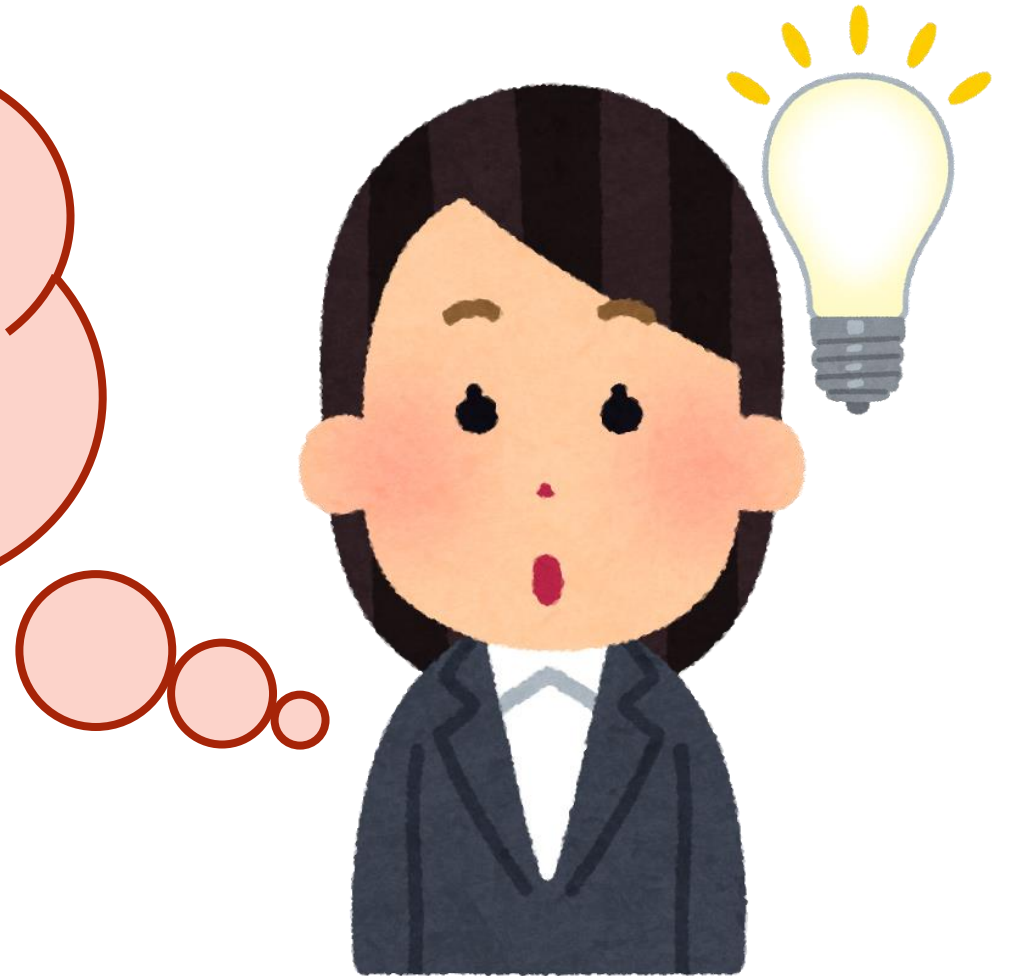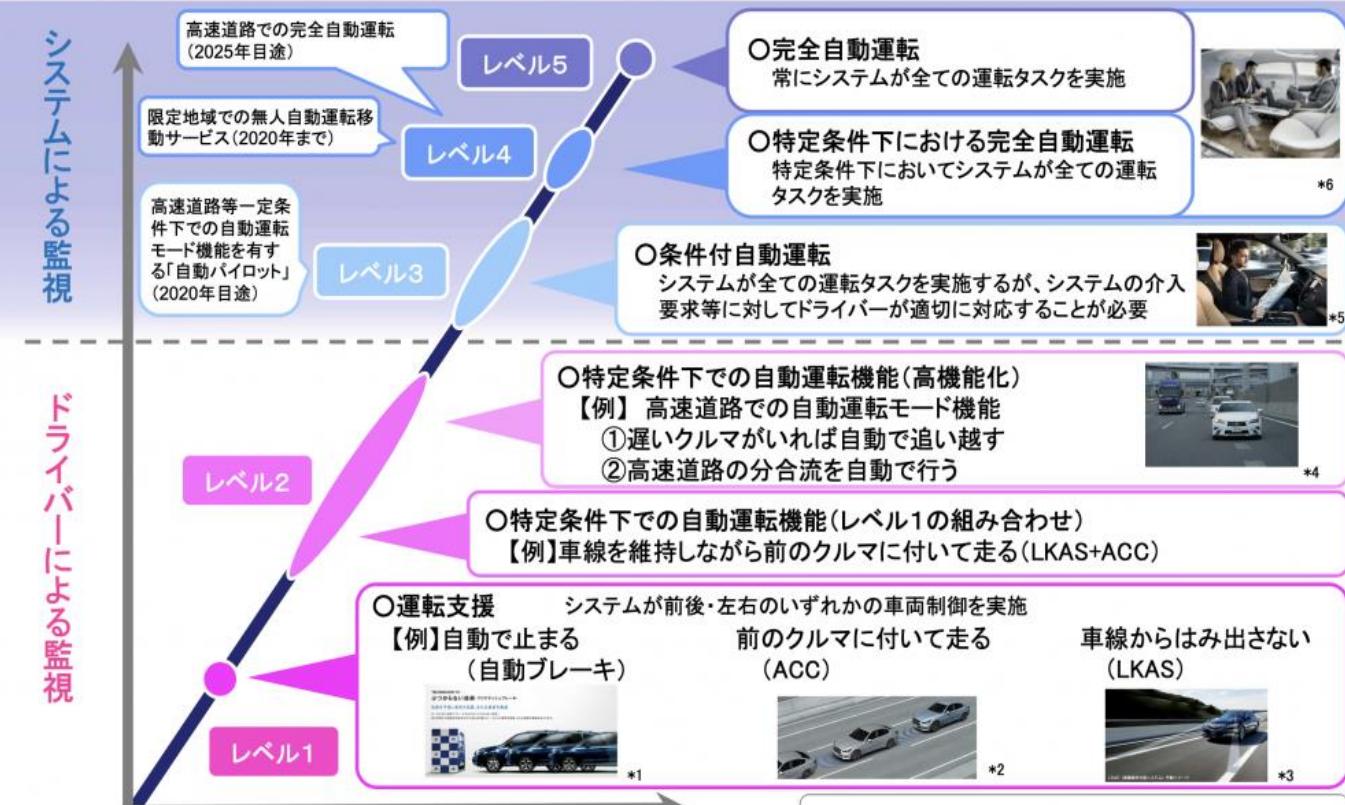
Investigation of best practices for communication solutions.

自動運転のレベル分けについて　国土交通省【別添3】

In autonomous driving, definitions are established to align stakeholder perceptions. This approach could also be applied to the field of project management.

国土交通省自動運転戦略本部　第１回会合（平成２８年１２月９日）
配布資料　添付２ https://www.mlit.go.jp/common/001155023.pdf

Advocate

A communication tool designed to facilitate the introduction, operation, and evaluation of AI in project management.

"AI Level Definitions for Project Management."

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The AI Level Definition was created through discussions with experts from various industries starting in 2020, resulting in its current form.

Knowledge Area	2020						
	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Des.
Project Integration Management			████	████	███▶		
Project Scope Management		███	████	████	▶		
Project Schedule Management		███	████	████	▶		
Project Cost Management	███	████	███▶				
Project Quality Management			████	████	███▶		
Project Resource Management	███	████	██▶				
Project Communications Management	███	████	██▶				
Project Risk Management	███	████	██▶				
Project Procurement Management			████	████	███▶		
Project Stakeholder Management		███	████	███▶			

AIレベル定義初版　作成貢献者

飯塚 哲也・今井 景子・一柳 晶子・工藤 達矢・莱野 哲兵・小林 梨恵子・斎藤正・三五 大輔・鈴木 大治・冨田 寛・西原 真仁・根本 和昌・林 克郎・藤井 英章・眞鍋 健太・村瀬 武史・森 萌
（五十音順）

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