

DevOps in Eastern Culture

Hancom MDS / Aidan Dongguel Lee / DevOps Manager



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- I. About Hancom MDS Co. and myself
- II. DevOps in Korea
- III. Eastern and Western DevOps Culture Differences
- IV. DevOps adoption cases
- V. Summary

As a member of Hancom Group, Hancom MDS **enhances customer value** by generating business synergies with other Hancom affiliates. We thrive on stable businesses based on our **well-established management**.



* 1USD = 1,090KRW



Hancom	Hancom MDS	Hancom Secure	Hancom GMD
Office SW	Embedded SW	Security	Forensic
AI(Voice Recognition)	IoT	Authentication	VR/AR

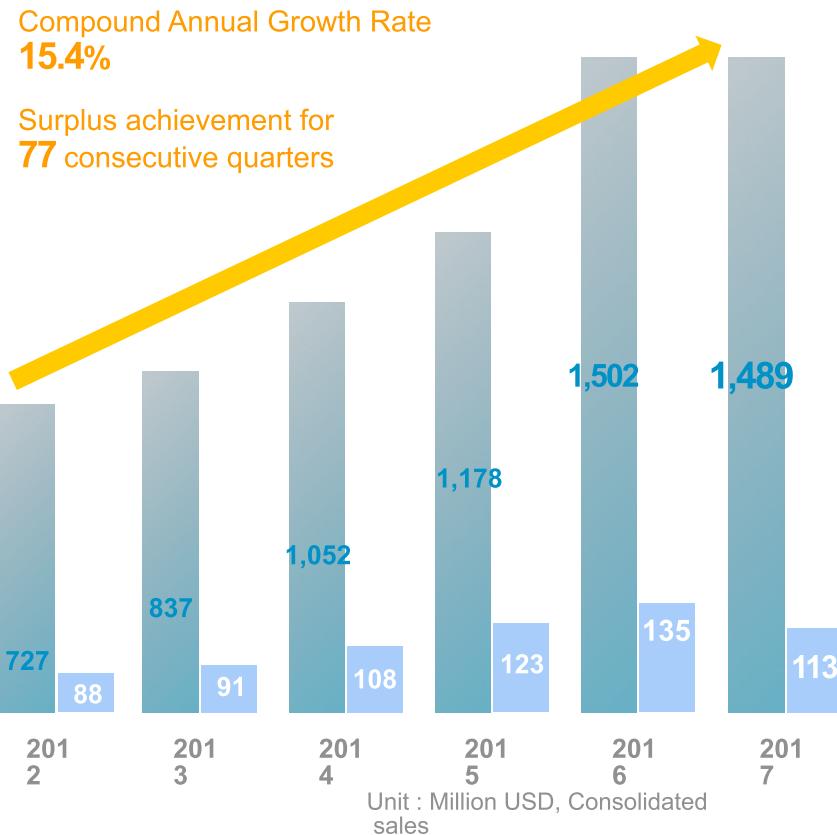
Company Overview

Hancom MDS, leading the embedded industry in Korea for more than 20 years, has maintained **stable growth** with constant development of new business models.



	Established / Listed	1998 / 2006
	Employees	470 (300 in headquarters)
	Major Shareholder	HANCOM Inc.
	Credit Rating	A+
	CEO	Myungsub Chang
	Location	Pangyo Techno Valley, Seongnam-si, Gyeonggi-do, Republic of Korea

Sales
Operating Profit



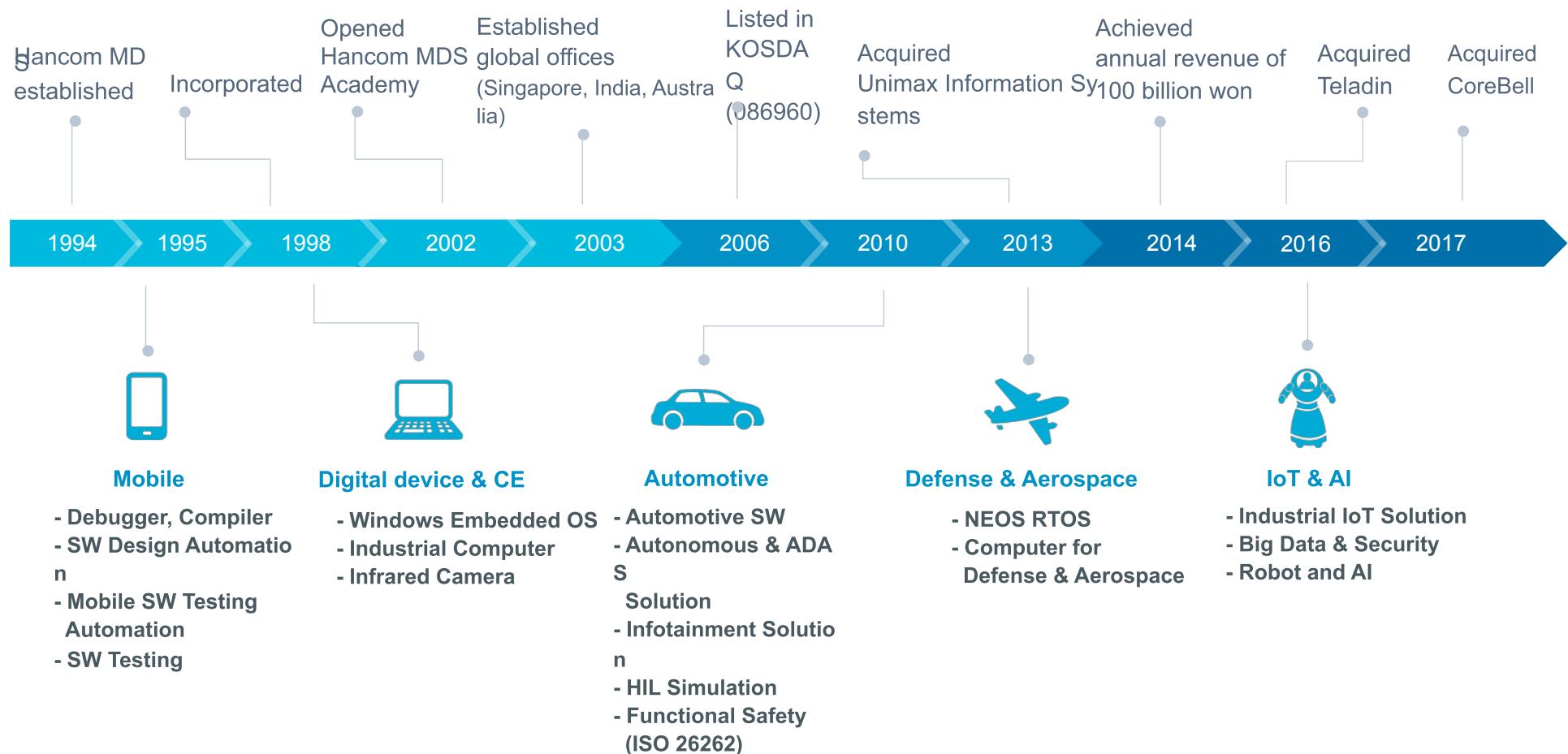
Subsidiaries and Global Offices

Hancom MDS is diversifying business fields through M&A. Furthermore, we have expanded our business network overseas with our outstanding successes in Korea.



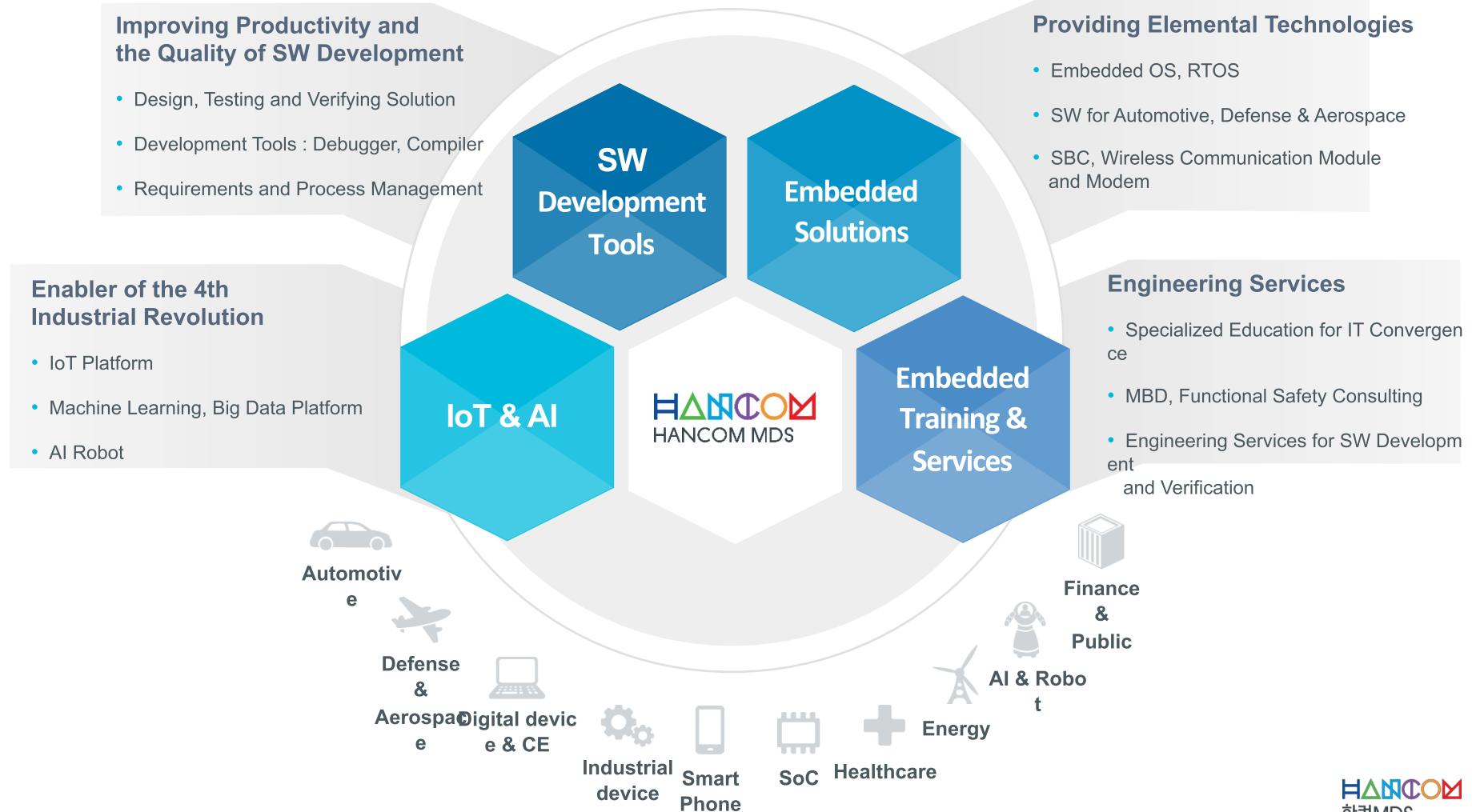
History

Hancom MDS offers the most effective total embedded solutions to many industries such as Automotive, Defense & Aerospace, and Mobile. We are now expanding our business to IoT, Big Data, and AI & Robot.



Business Areas

Hancom MDS has a stable business system for various industries. We provide **total solutions and services** in order to improve development efficiency for our clients.



Core Competencies : Providing Total Solutions and Services

Cooperating with the world's leading technology companies, we are able to contribute to enhance our customer's value by providing a **one-stop total solution** integrated together with products and engineering services.

More than 70 partners in worldwide

Microsoft **dSPACE**

LAUTERBACH DEVELOPMENT TOOLS **IBM**
Gold Business Partner

QUALCOMM **FLIR**

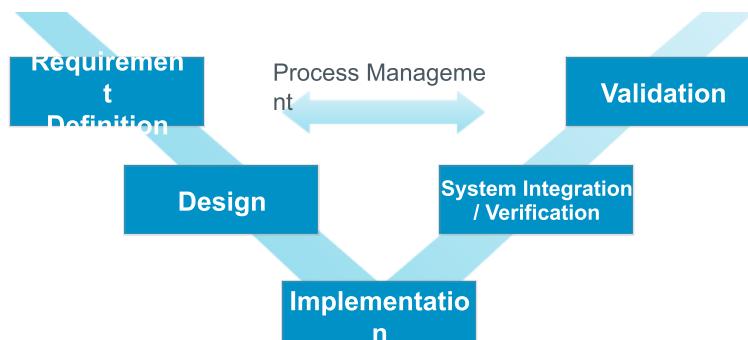
kontron **NVIDIA**

SIEMENS **infineon**

Total solutions to improve development productivity and quality

Providing core technologies for system implementation

OS Middleware HW System



Covering the entire SW development process

Education, Consulting, and Engineering services

ISO 26262 **AUTOSAR**

AUTOMOTIVE SPICE®

DO-178C

OPC UA

OMA
Lightweight M2M

OPEN CONNECTIVITY FOUNDATION™

Core Competencies : Developing new businesses and markets

Hancom MDS has developed **new solutions** for maintaining sustainable growth and meeting the latest market demands. We also generate business synergies with other affiliates in the Hancom Group.

IoT

- IoT Communication Module
- IoT Platform
 - : Industrial IoT Platform
 - IoT Device Management Solution



AI

- Robot : Intelligent Services, Education , Healthcare, Distribution
- HW Platform for AI Services : Partner of NVIDIA, Qualcomm



Autonomous Driving

- Advanced Driver Assistance Systems(ADAS) Solution
- Vehicle to Everything(V2X) Solution
- Sensor Algorithm Development



Safety

- Fire Detection and Building Management with Big Data Analysis.
- Smart Fire Fighting Equipment : Wearable devices combined with IoT, VR, and PTT

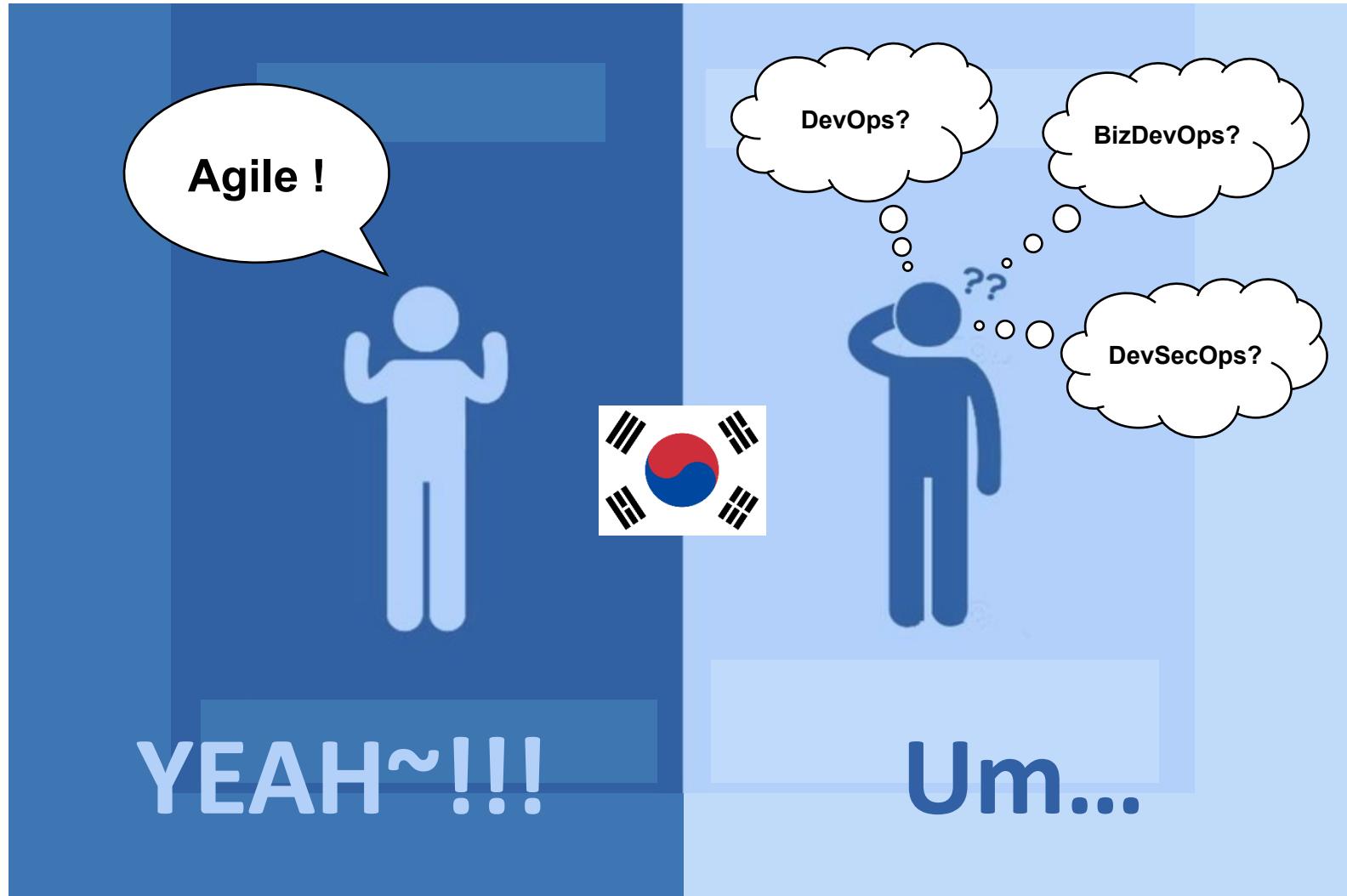


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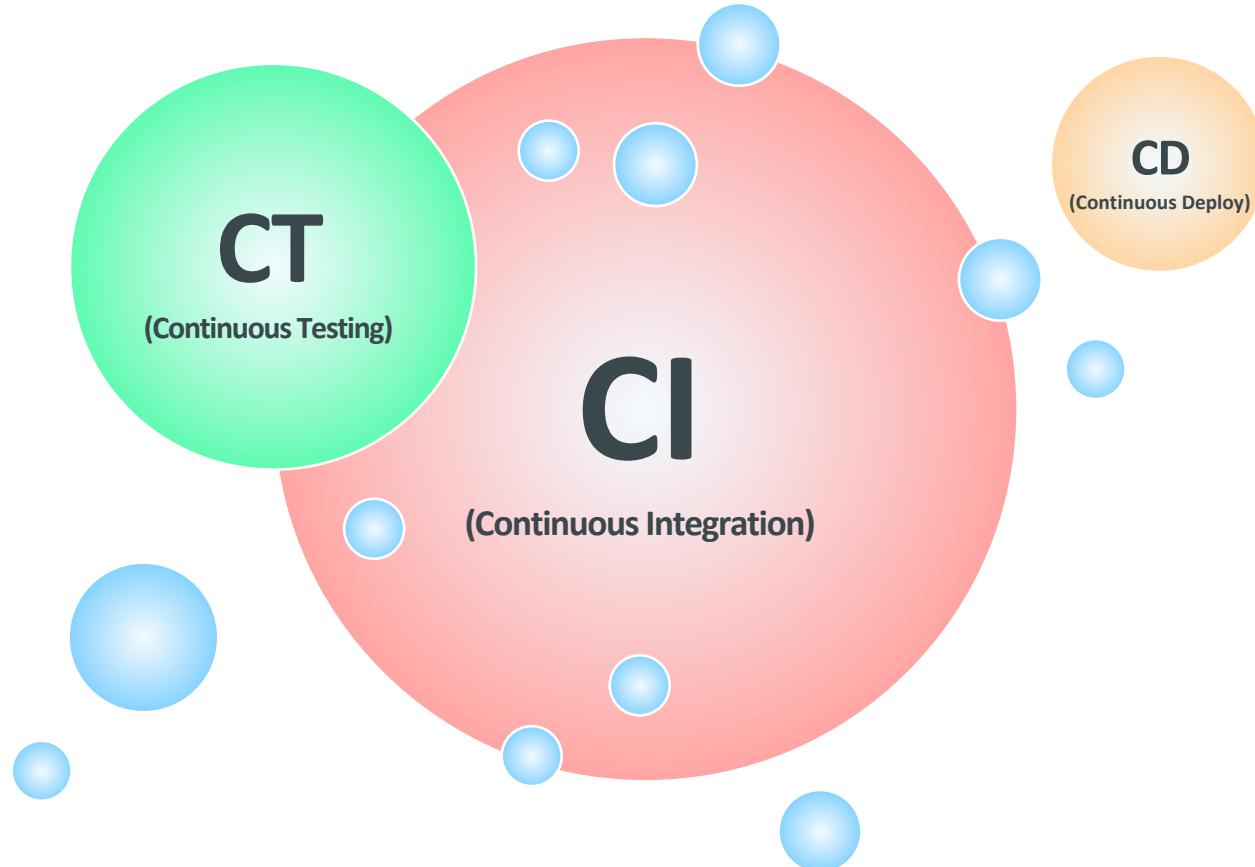
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DEVOPS LINE OPEN
OUTSOURCE PASS REQUIRED
AGILE PASS GET DISCOUNT



DevOps Automation specific gravity in Korea : CI > CT > CD





- In 2017, Shinhan Bank applied the **agile** method to build a mobile web banking platform ("SoL : Shinhan Soal") that allows access to banking services such as account transfer without an electronic official certificate.
- Seo chun-suk, the head of digital finance at Shinhan Bank, the vice president of Shinhan Bank's digital group said, "we have to redefine everything from the traditional financial framework to the way we work, as well as our products and services. We will continue to improve and adjust the necessary parts of the IT department in an **agile** manner."
- On April 2018, Orange Life (aka. ING Life) reorganized its organizational structure into **agile**. The **agile** organization system has broken down the boundaries between departments and tied together marketing, sales, and operations for each business property, so that customer feedback on products and services is reflected more quickly.

ORANGELIFE



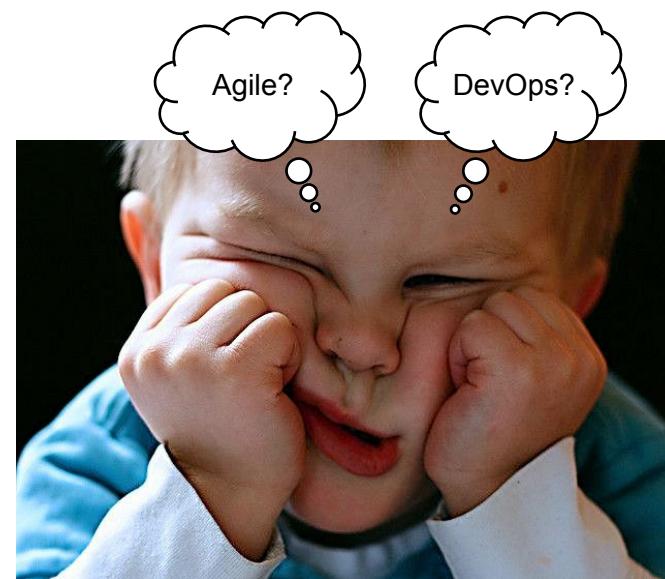
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Just don't know how to deal with it

- Lack of IT capabilities required to build an Agile & DevOps environment
- Some companies do not have the ability to develop in-house Agile & DevOps environment and process because they **entrust outsourcers to develop agile & DevOps environment and process** majorly for the cost reasons
- **No foundation to apply** the IT organization management method, hence it is difficult to make changes



- Refuse to change
- For Agile & DevOps to succeed, it requires to change the entire organizational culture, and it is not easy for all members to abandon their existing way of thinking and working
- Old people who grow up with old culture, are in a management position.
- Hard to abandon old habit, hence prefer in-house way rather than outer source.



Regent Heungseon of Chosun

鎖國攘夷

“Do not establish relationship and trade with other countries, and close the doors”

Change is serious thing

- On August 1st, 2015, Korea's postal code or zipcode has been changed from 6 digits to 5 digits.
- KoreaPost announced and advertised this change for long time but both 6 digits and 5 digits postal code has been used until the end of the last year.
- For example, majority of Korean internet shopping mall used both 6 digits and 5 digits for order.
- Where Amazon changed its Korean postal code digits from 6 to 5 in 2015 rather than 2017 of all its shopping channel.
- Why? For companies, it is more difficult to stop the service in order to apply the change than to reflect the new zip code system.

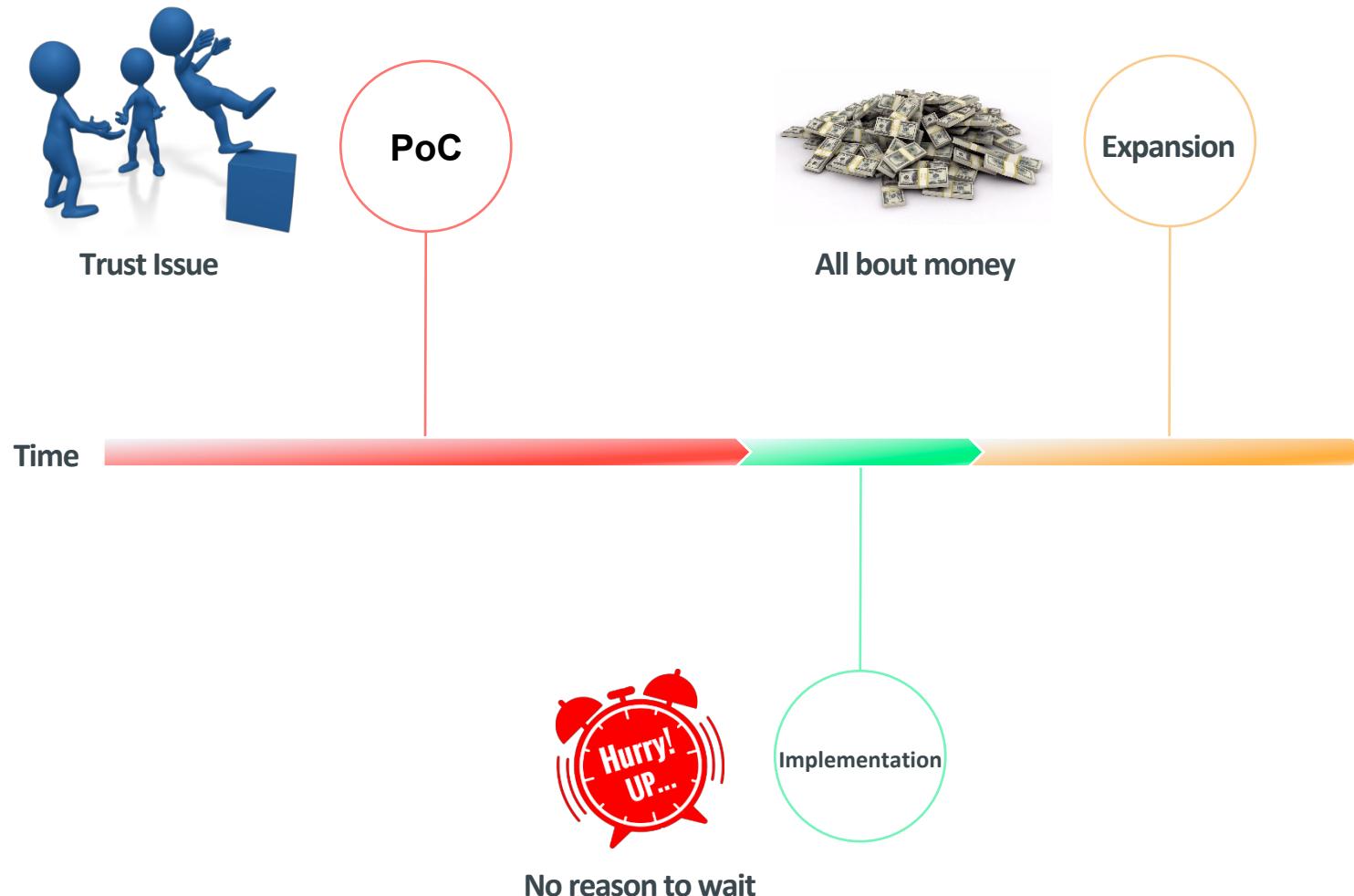
▣ 새 우편번호 표기 예시

세종특별자치시 어진동 307-19
3 3 9 - 0 1 2



세종특별자치시 도움5로 19
3 0 1 1 4

Different sense of time



Agile



DevOps



Why Korean companies do not fully utilize for agile & DevOps?

Agile

-
- The diagram illustrates five reasons why Korean companies do not fully utilize Agile, each represented by a 3D cube. The cubes are arranged vertically, with the first two in a light red shade, the third in orange, the fourth in blue, and the fifth in purple.
- 1 Organizational Culture
 - 2 Lack of in-house skills and knowledge
 - 5 Management intervention & lack of understanding

DevOps

-
- The diagram illustrates six reasons why Korean companies do not fully utilize DevOps, each represented by a 3D cube. The cubes are arranged vertically, with the first two in light red, the third in orange, the fourth in green, the fifth in blue, and the sixth in purple.
- 1 Organizational Culture & Thinking / Refuse Change
 - 2 Lack of in-house skills and knowledge
 - 4 Don't know how to start
 - 5 Management intervention & lack of understanding
 - 6 An overly rigid process

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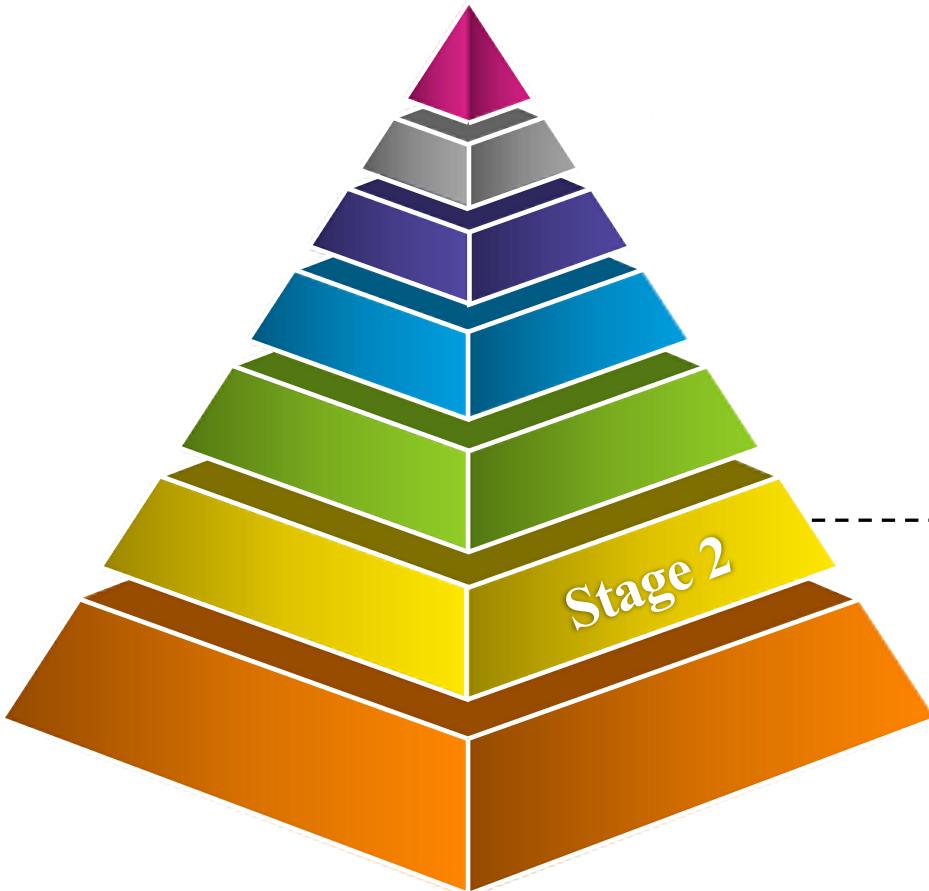
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“Persuasion and Persuasion again”

- A year long persuasion work
- Starting from bottom to top
- As many meeting as possible
- As cooperative as possible

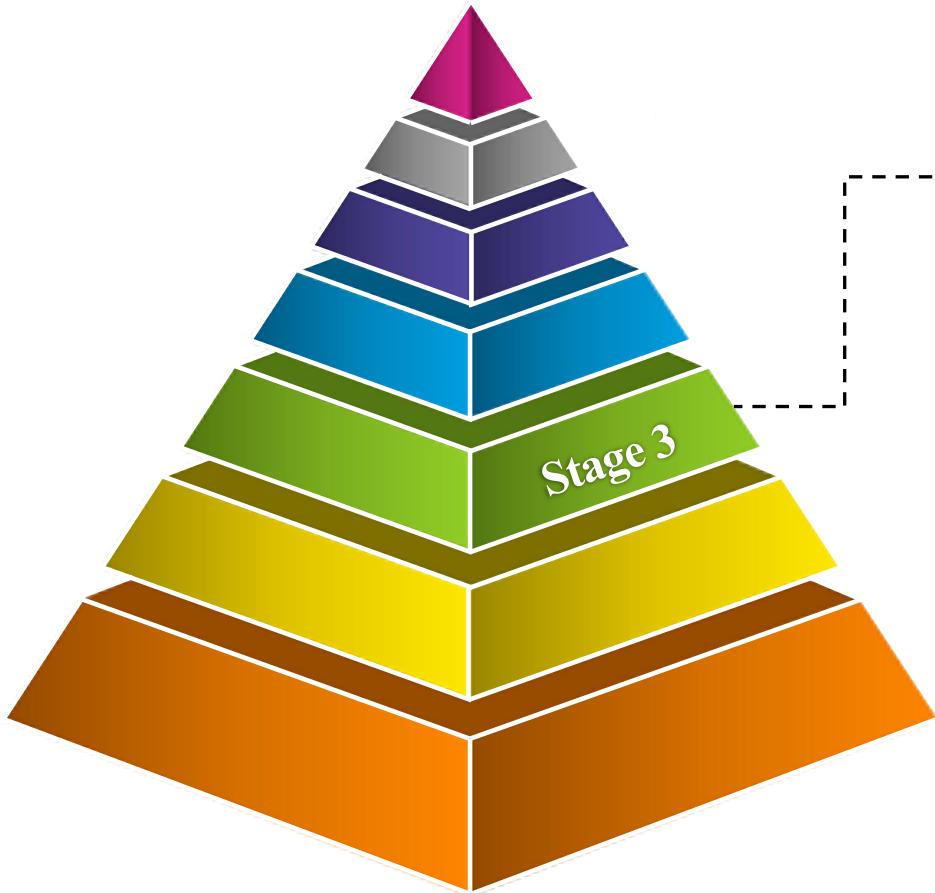
Use Cases (Automotive Company H : How did we get there?)



"See little hope"

- There was one awake team in DevOps
- Starting from one team
- Starting from very small single project
- Continuous Integration and Test automation
- Workflow improvements

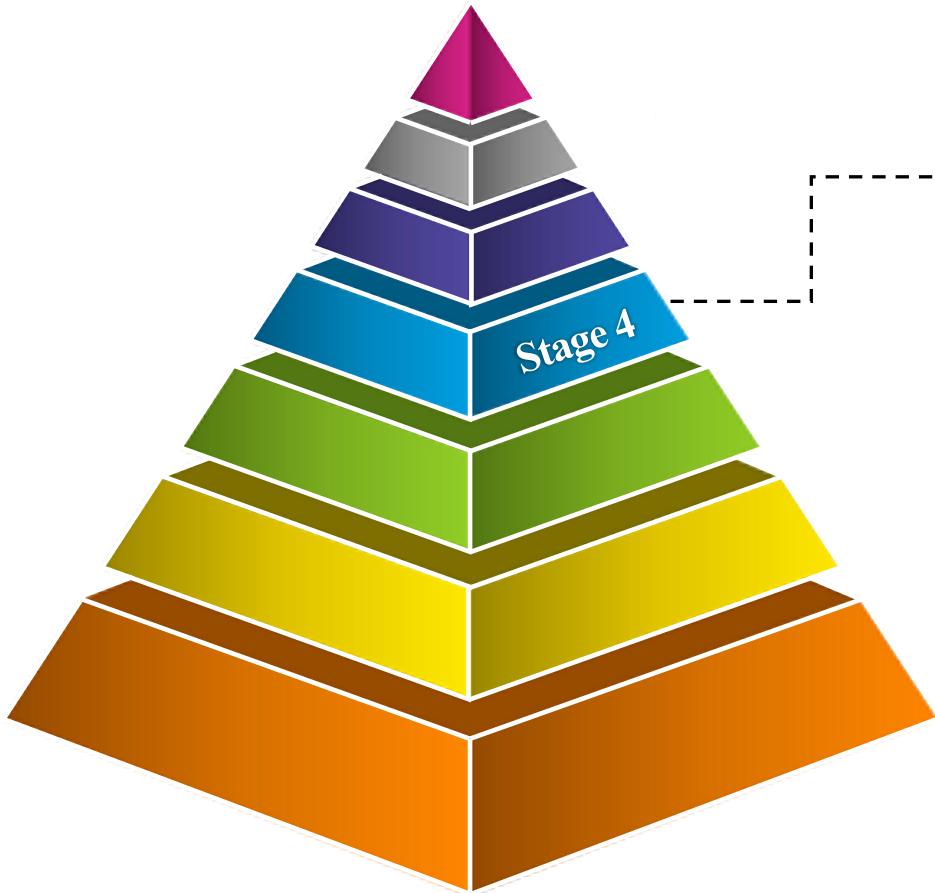
Use Cases (Automotive Company H : How did we get there?)



“It might work!?”

- Some satisfaction
- Doing CI & CT for other teams (14 projects)
- Variant based automation system buildup
- Integration build

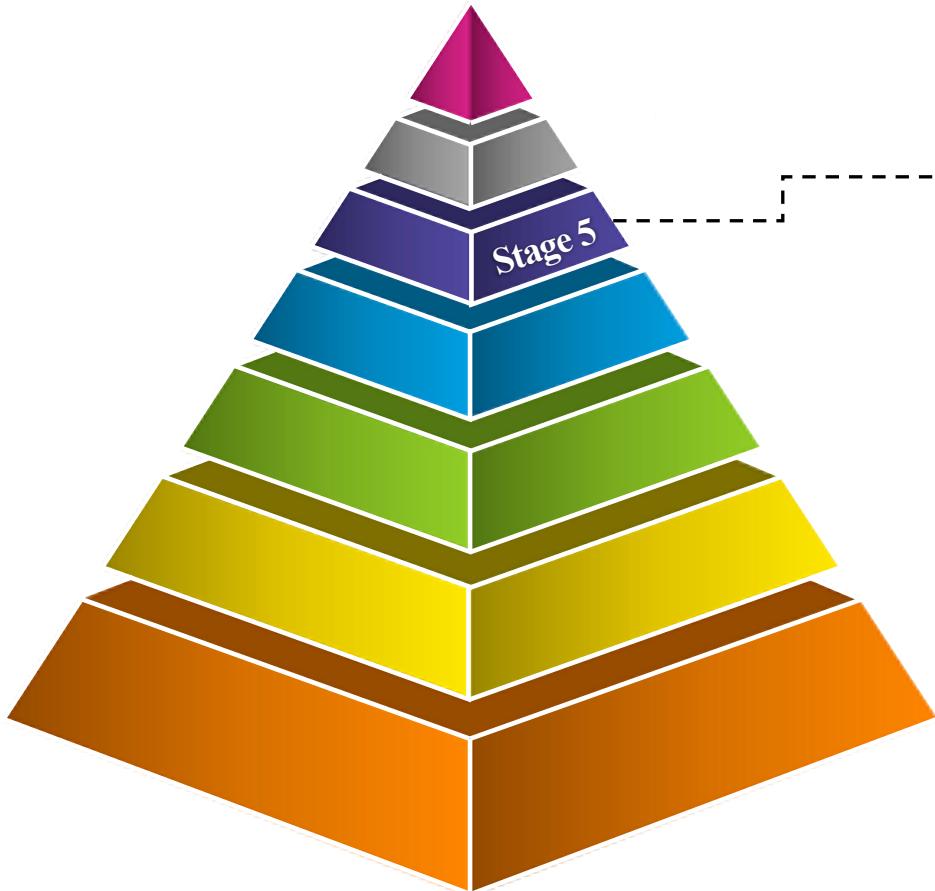
Use Cases (Automotive Company H : How did we get there?)



“Almost there!”

- Considerable satisfaction
- Doing CI & CT for more teams (24 projects)
- Human Error prevention system buildup

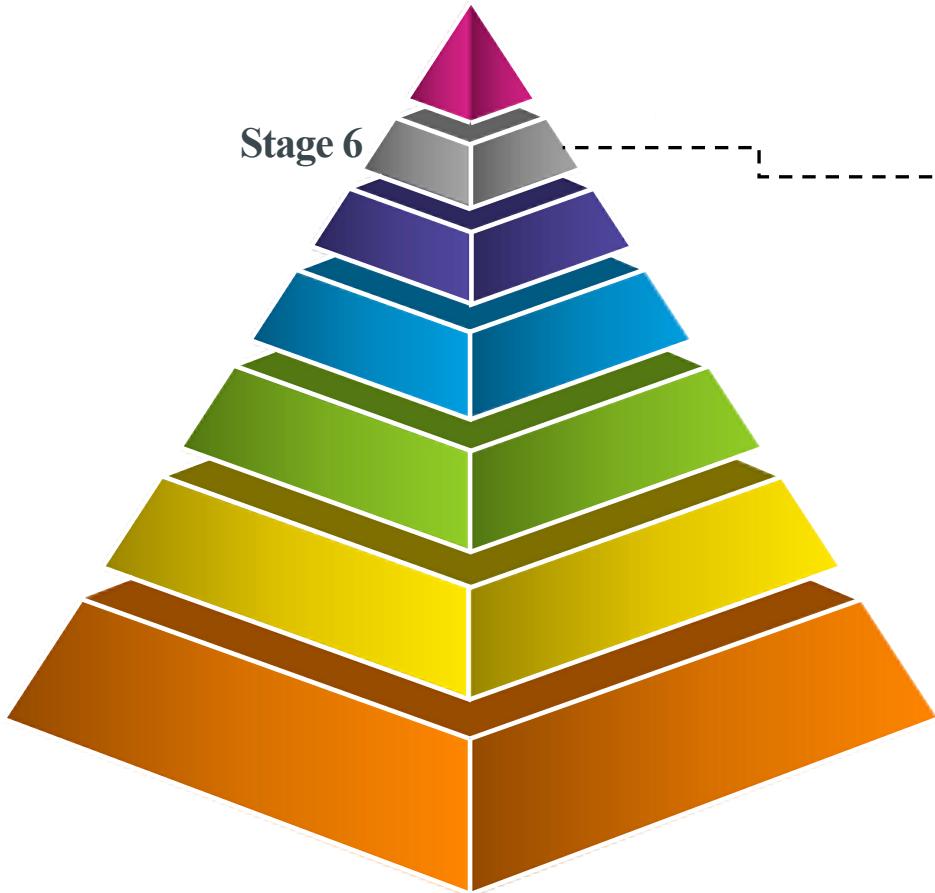
Use Cases (Automotive Company H : How did we get there?)



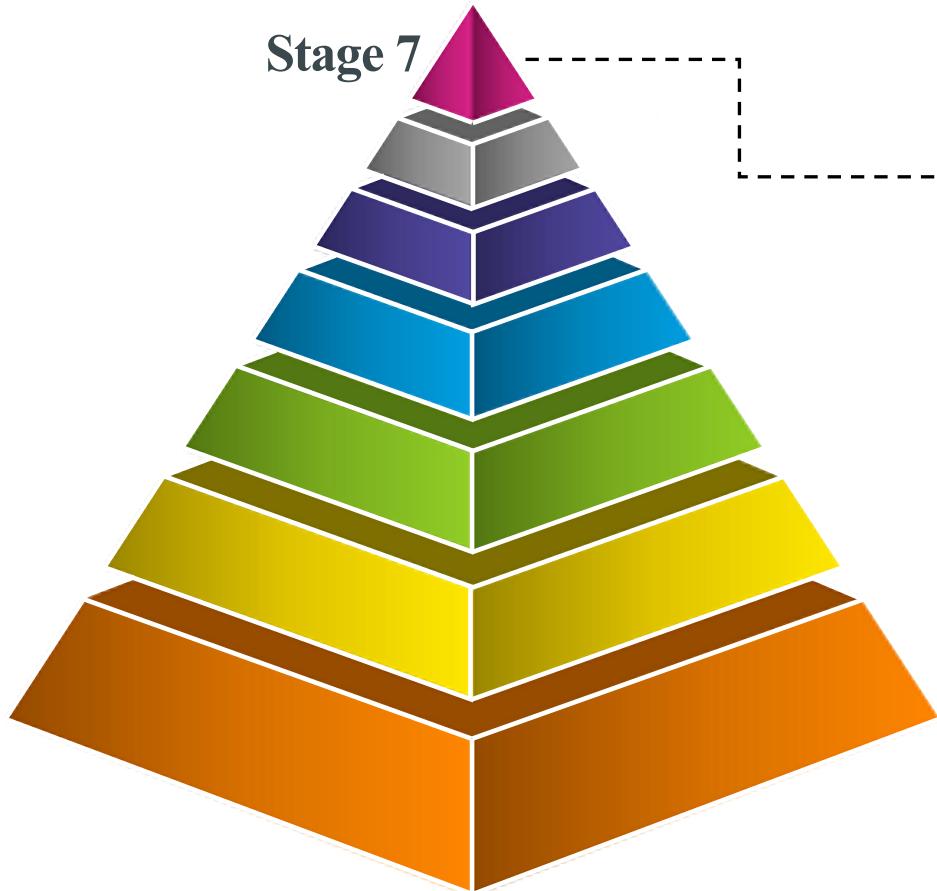
“Now it’s the time!”

- Apply across the enterprise
- Now everything is automated with ElectricFlow

Use Cases (Automotive Company H : How did we get there?)



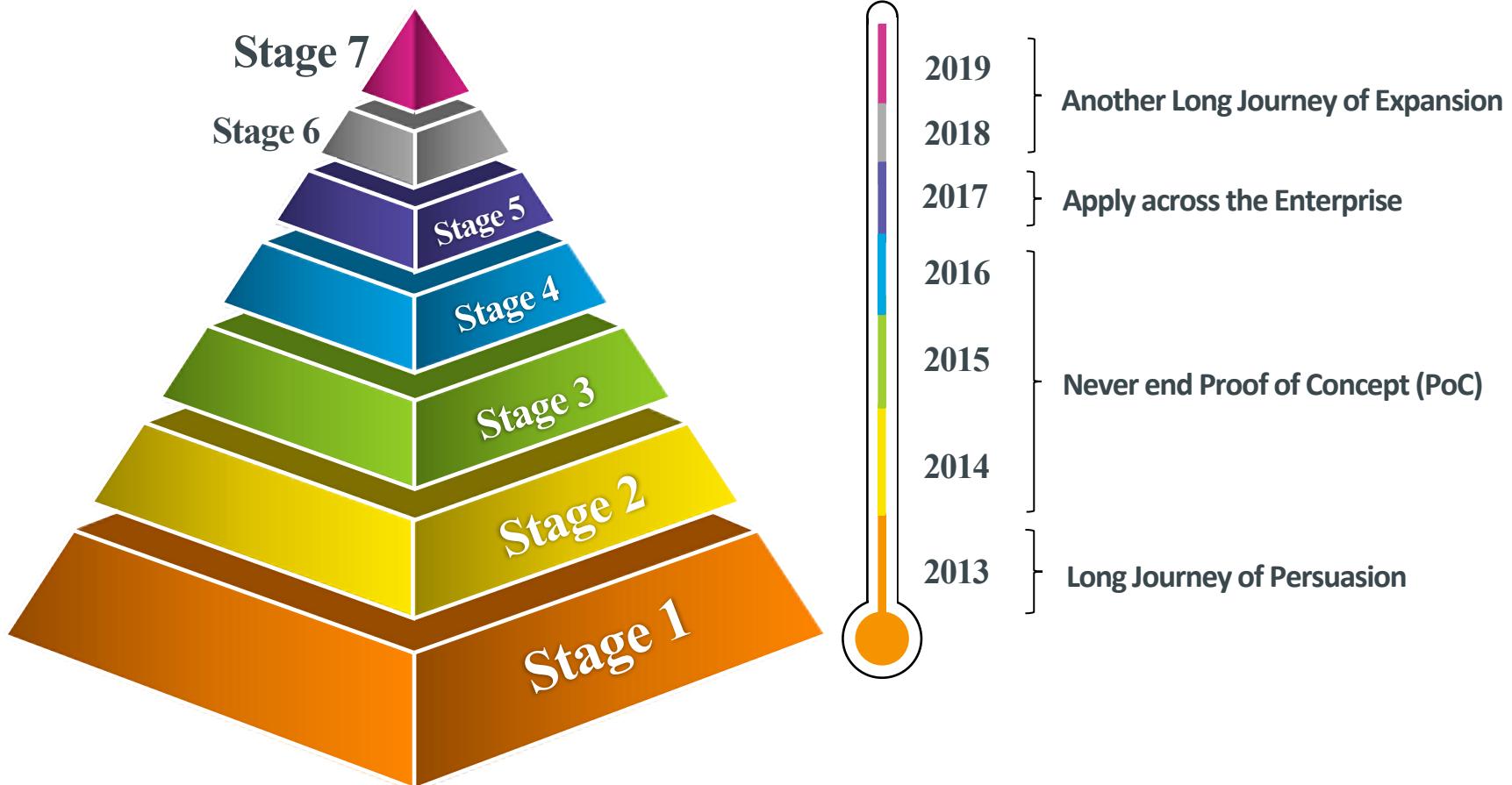
- “We want more!”**
- PLM interlocking system buildup



“What else can we do?”

- Build acceleration system on the way with Electric Accelerator

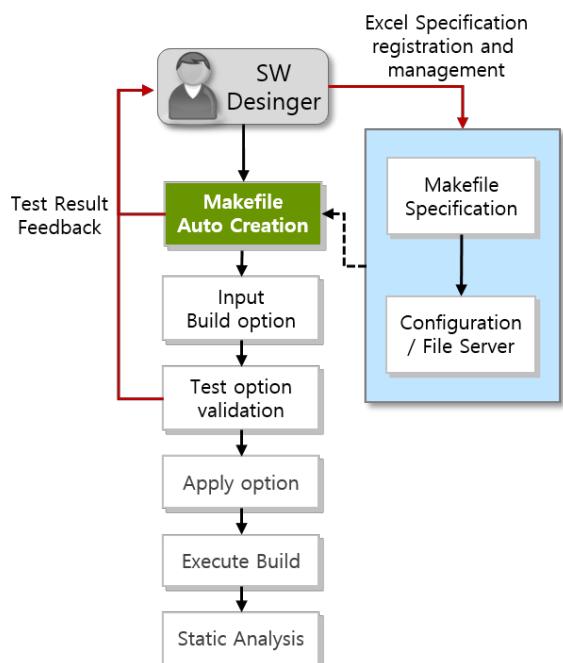
Use Cases (Automotive Company H : How did we get there?)



Use Cases (Automotive Company H : Prevent Human Errors)

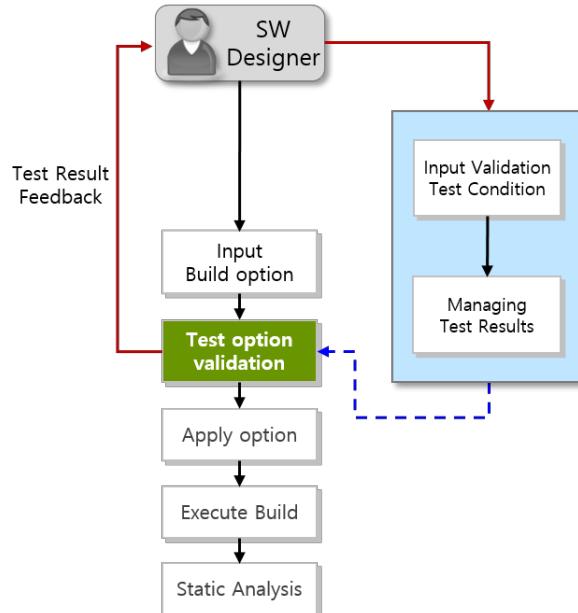
Method #1 :

“Makefile auto creation”



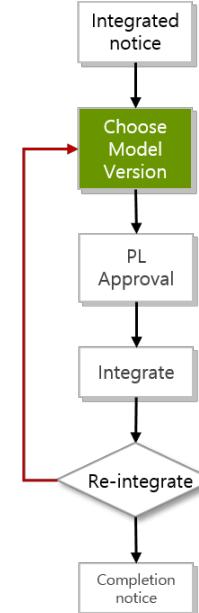
Method #2:

“Build option validation automation”

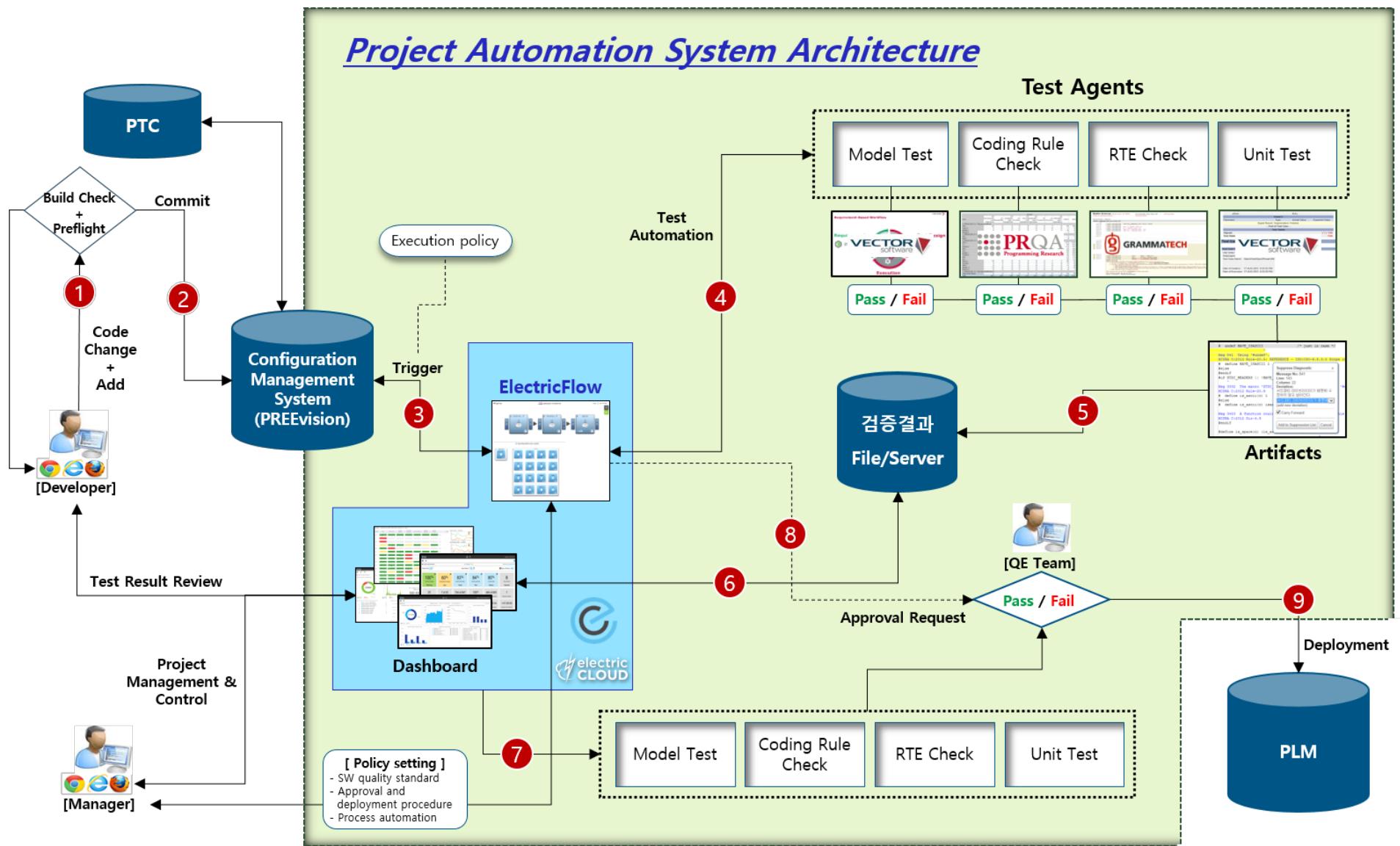


Method #3:

“Past version checking and prevention of misapplication automation”



Use Cases (Automotive Company H : Automation System Architecture)



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Unique
Culture



Korea's DevOps will grow faster than any other countries once they understand the DevOps

Thank you

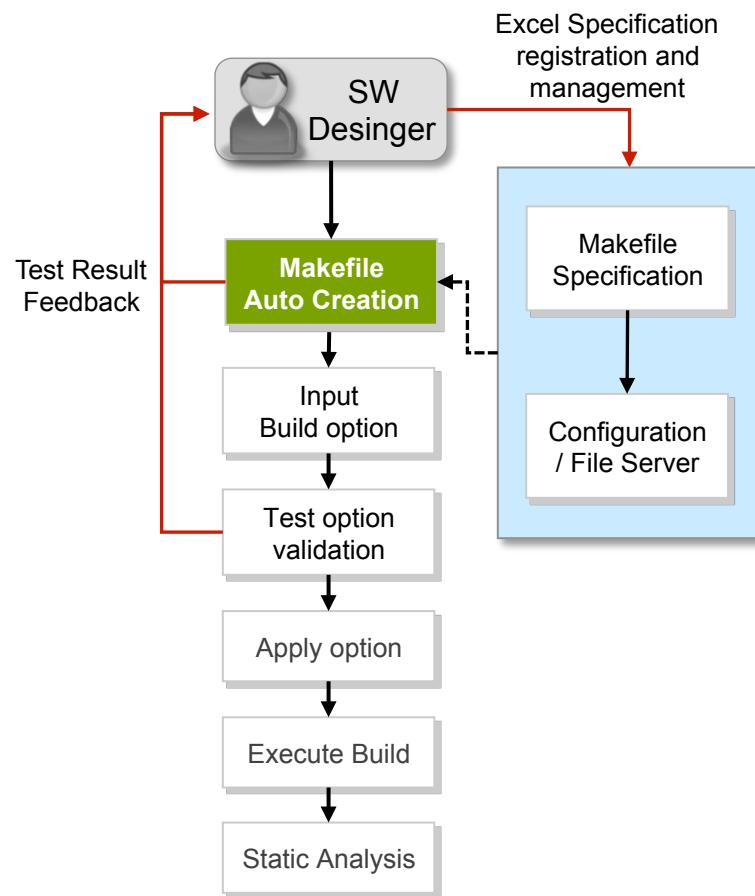
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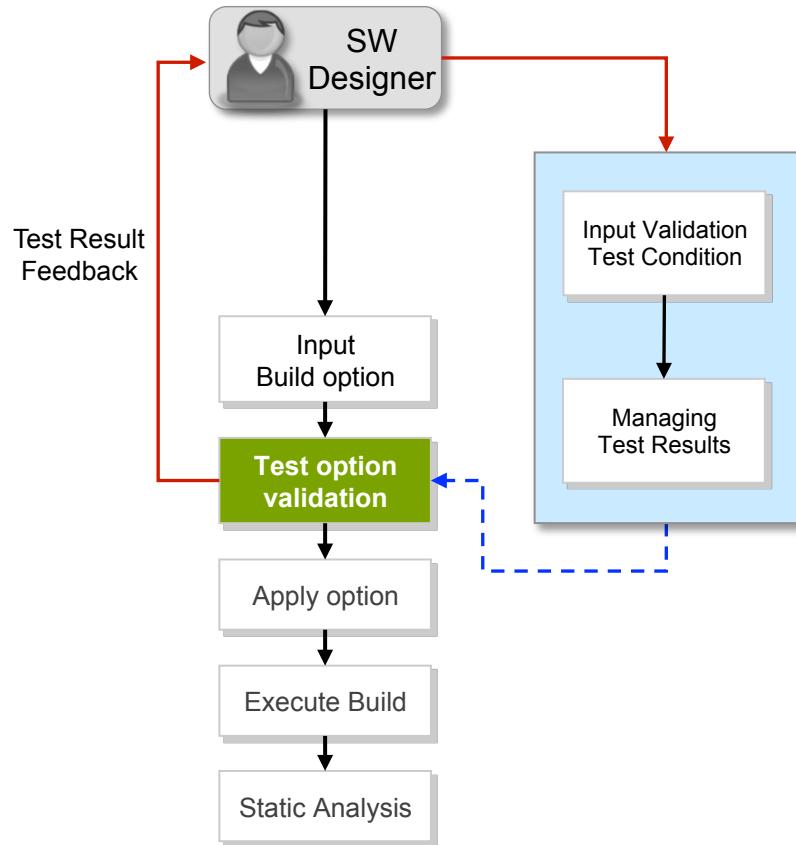
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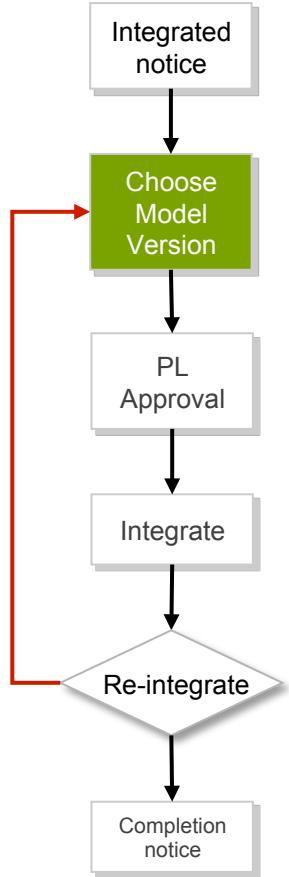
Prevent Human Error : Makefile auto creation



Prevent Human Error : Build option validation automation



Prevent Human Error : Past version checking and prevention of misapplication automation



Use Cases (Automotive Company H)

