



# AUTOMOTIVE QUALITY ASSURANCE SERVICE

**IVS – Independent Testing Services**

2025





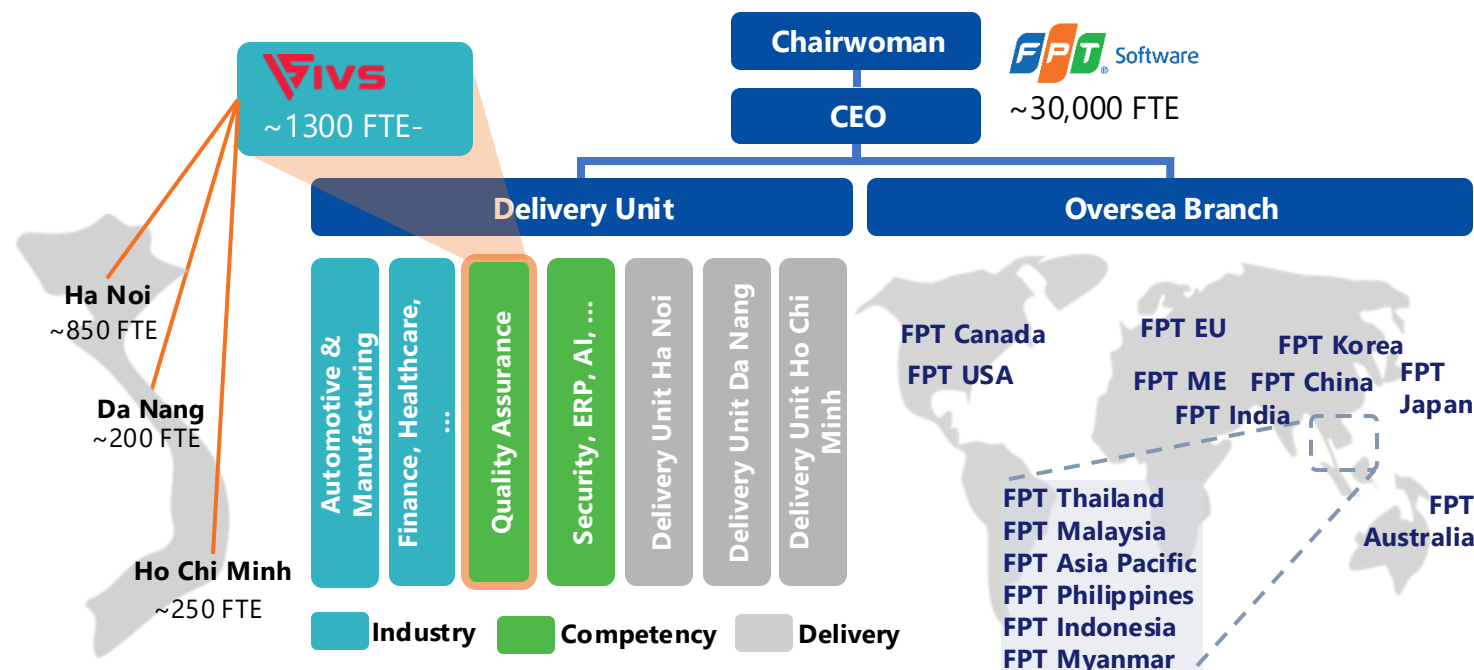
# ABOUT IVS



INDEPENDENT  
VERIFICATION SERVICES

is a competency unit of  
FPT, the biggest software testing services  
provider in Vietnam.

Our mission is continuous research,  
development and practice to provide our  
customers with excellent quality assurance  
journeys, helping customers to stay ahead in  
the digital transformation race, through non-  
stop innovated digital assurance and quality  
engineering services.



## Service by Numbers



**18+** Years  
Experience



**200+** Worldwide  
Clients



**300+** Full Stack  
Quality Engineers



**30+** Quality  
Consultants



**700+** ISTQB  
Certificated Engineers



**80+** PMP, PSM  
Certificated Engineers

## Certifications - Recognizations - Partners





# OUR OFFERING – DIGITAL ASSURANCE & TESTING SERVICES



## 01 End to End Digital Assurance Services

Offer End-to-End services from advisory to operation with AI-Augmented solution to help client achieve certain business goal. Ensure digital transformation projects attain the business objective.

### ► Managed Testing Services

- Industries Expertise Quality Engineer (Airline, Automotive, Banking, Insurance, Retail, Healthcare, Oil & Gas, Smart Devices)

### ► Consultation & Transformation Services

- DevTestOps (CoTS)
- Test Center Of Excellence (TCOE)
- Test Tools

## 02 DevTestOps & Automation Test Services

Deliver Shift-Left testing trending service through DevTestOps experience where effective use of Automation Testing is the focus

- Agile DevTestOps Transformation
- Automation Test Implementation & Maintenance
- Automated Performance Test
- Automated Regression Test
- Quality First Development Service

## 03 Quality Engineering & Next-Gen Services

Providing testing services for special products needs its own methods and criteria, as well as requires deep knowledge of standards, high skills and specificities

- Gen-AI & AI Product Testing
- Legacy Modernization Testing
- Data Quality / Data Migration / ETL Testing
- Chipset Design For Testability (DFT)
- Microservice Testing
- Remote Testing

## 04 Quality Assurance Accelerator & Solution



**TestVista**

Generative AI-Augmented  
Testing Accelerator



**TestMan**  
Platform

End to End Testing  
Management System



Code-less  
Automation Product



Flexible First  
Automation Framework



# OUR KEY AUTOMOTIVE CLIENTS



**Panasonic**



 **LG Electronics**



 **YAZAKI**



 **BOSCH**



 **VINFAS**



# AUTOMOTIVE CLIENT LANDSCAPE



Customer	Customer Location Based	Infotainment	Cluster	HUD	Telematics	Navigation	Network	Stability Control	Diagnostic	Process Groups	No. of Released Product	Max No. of Team Members	Year of Engagement
LG		●	●	●	●	●	●		●	ASPICE SWE.5~SYS.5	43	330+	2015~ (8 years)
Panasonic		●	●			●				ASPICE SYS.4~SYS.5	32	150+	2014~ (9 years)
Ford							●			AGILE	2	20+	2021~ (3 years)
BOSCH							●	●		ASPICE SWE.4	3	10+	2021~ (2 years)
VINFAST		●	●	●	●	●	●		●	ASPICE SYS.4~SYS.5	6	50+	2019~ (4 years)
Pioneer						●				ASPICE SWE.5	10	80+	2015~2019 (5 years)
MITSUBISHI		●								ASPICE SYS.4~SYS.5	2	30+	2019~2020 (2 years)
KYOCERA					●					ASPICE SWE.5	1	10+	2015~2015 (1 years)
DOOSAN		●								ASPICE SYS.4~SYS.5	1	30+	2020~2021 (2 years)



# AUTOMOTIVE QUALITY ASSURANCE AREAS & RESOURCE CAPABILITIES



## Digital Cockpit

**270+**

Core QE  
**60+**  
Flexible QE



Infotainment



Navigation



HUD



Cluster

**335+**

Core QE  
**150+**  
Flexible QE

**160+**

Core QE  
**35+**  
Flexible QE

## Factory-Dealer-Customer Services



Diagnostics



Smart Services

**25+**

Core QE  
**20+**  
Flexible QE

## Others



Telematics



Vehicle Network

## Advance Driving Assistant System

**55+**

Core QE

**25+**

Flexible QE



Surround View



Auto Parking



Stability Control

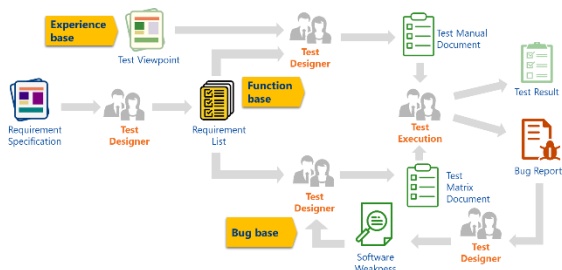


Sensing



## Managed Testing

Define test strategy, extract-evaluate-trace requirements then validating them under our extensive automotive test viewpoints



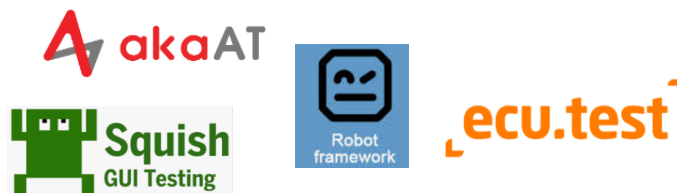
## Global Field Testing

Evaluate the system in fields by our optimal working model combining Subject Master Experts & resources in multi-geo branches



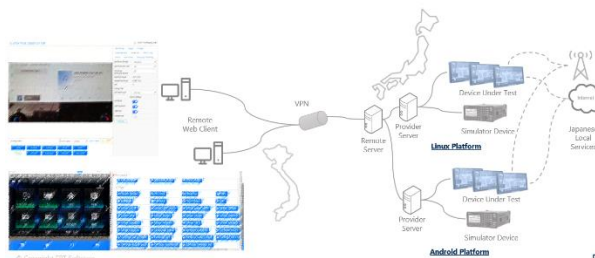
## Automation Testing

Maximize automation efficiency by our in-house automation tools which is adaptively integrated with SUT [\*]



## Remote Testing

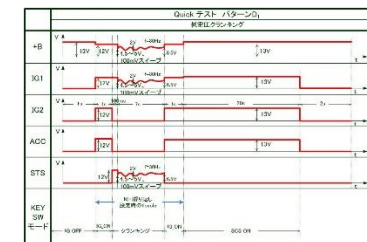
Remote to SUT [\*] where it is shared-able, located in sufficient test environment by our in-house remote testing tools



[\*] SUT:  
System  
Under Test

## Special Testing

Functional safety, power fluctuation, security testing by our unique combined know-how



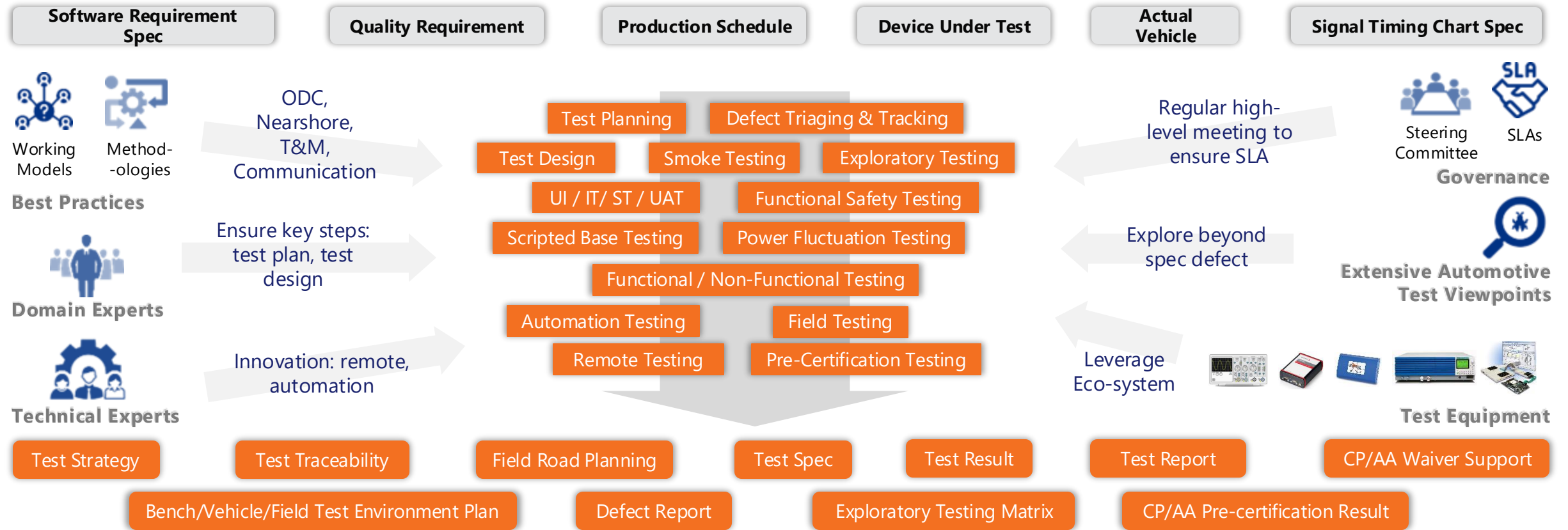
## Pre-Certification Testing

Eliminate most potential failures before certification testing by leveraging our certification bugs & solutions database





# MANAGED TESTING



## SERVICES BY NUMBERS



4 Clients

**Clients & Product Landscape**

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~150 Models

**Automotive Test Viewpoints**

325+

Divided in  
15 Categories

335+

25% seniors  
35% middles  
40% juniors

**Resource**

~17k+

Man-month spent effort

**Maturities**

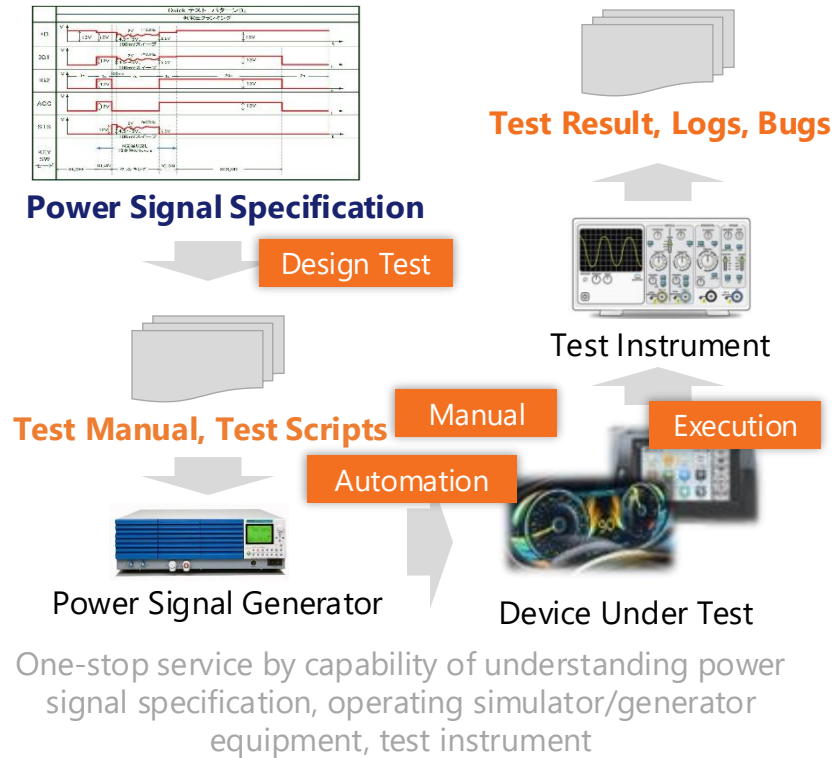
ipisoftware.com | 8



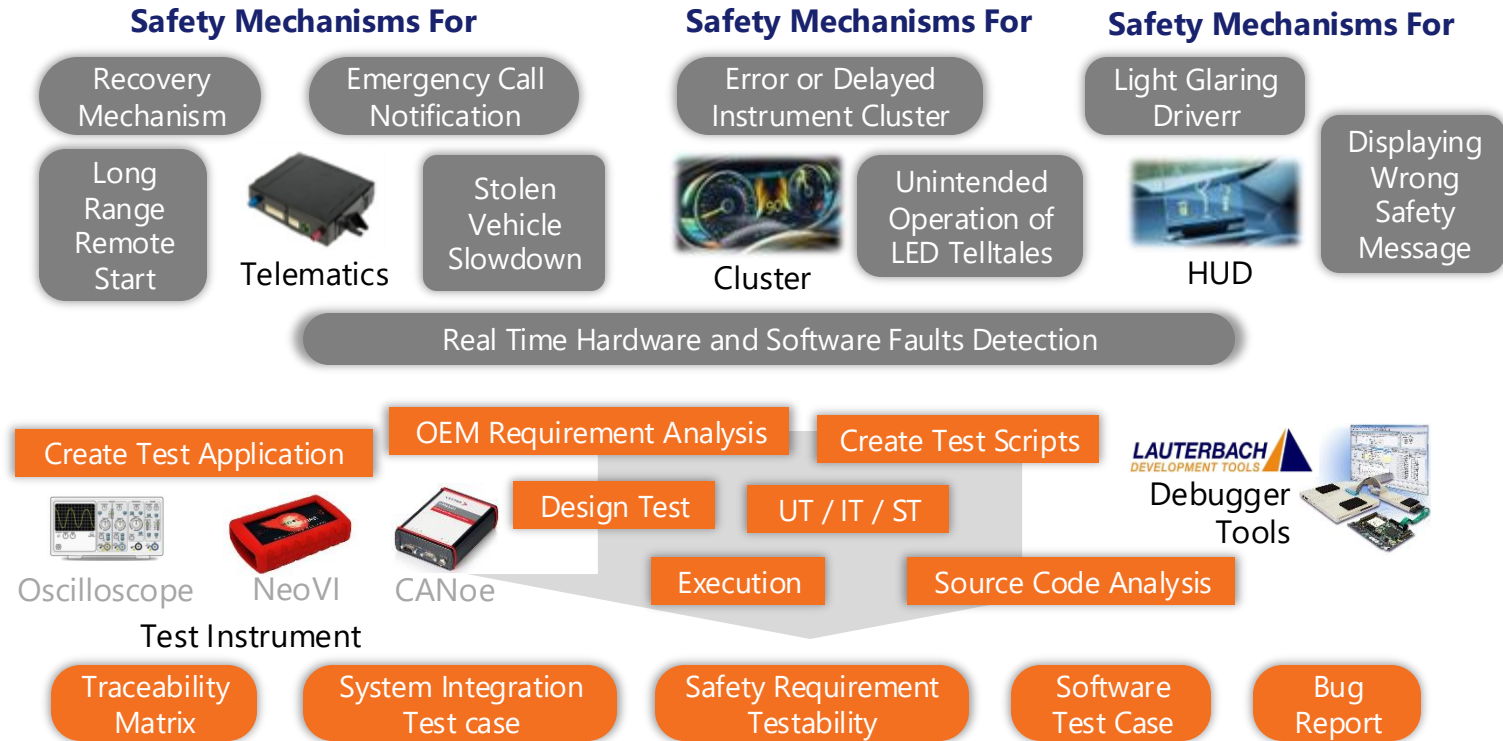
# SPECIAL TESTING



## POWER FLUCTUATION TESTING



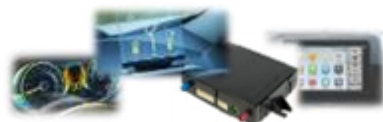
## FUNCTIONAL SAFETY TESTING



## SERVICES BY NUMBERS



1 client



7 Products

**Clients & Product Landscape**

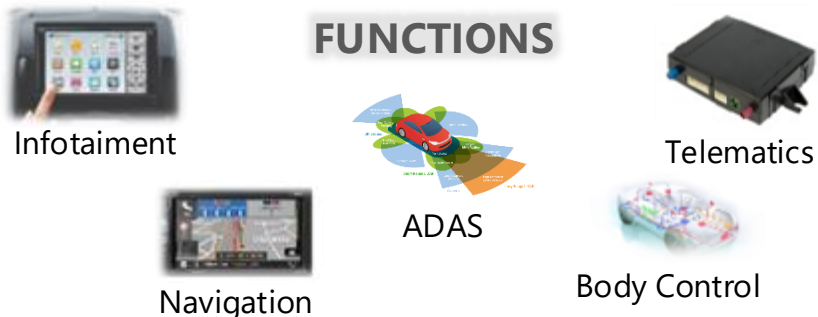
**9+** **Functions**

**15+**  
3 seniors / 5 middles / 5 juniors  
**Resource**

**~310** **Man-month spent effort**  
**Maturities**



# GLOBAL FIELD TESTING



## LOGISTICS & DUT DEPLOYMENT

DUT Import/Export

Local Vehical Rental

DUT Field Deployment Skillset

## FIELD TESTING TOOLS

GPS Logging

GPS Converter

Data Logging

CANoe

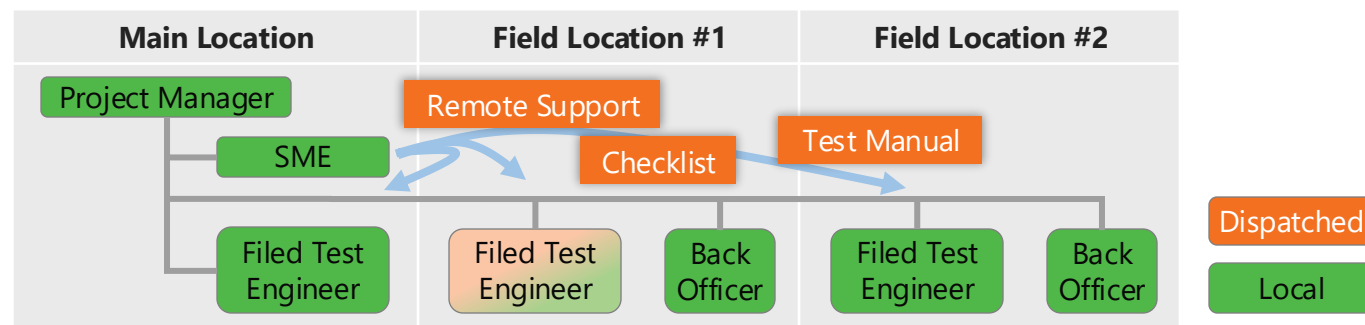
AT Command

Power Consumption Meter

## ROUTE PLANNING



## MULTI-LOCATION WORKING MODEL



Optimize vehicle running cost/time satisfying required road conditions by road assessment in target territory with local branches support

Develop a "copycat" test execution operation which enables capability of utilizing as many local resource as possible



## Clients & Product Landscape

## SERVICES BY NUMBERS

65+

20 seniors / 15 middles / 30 juniors

## Resources

~30

Spent effort (MM)

## Maturity

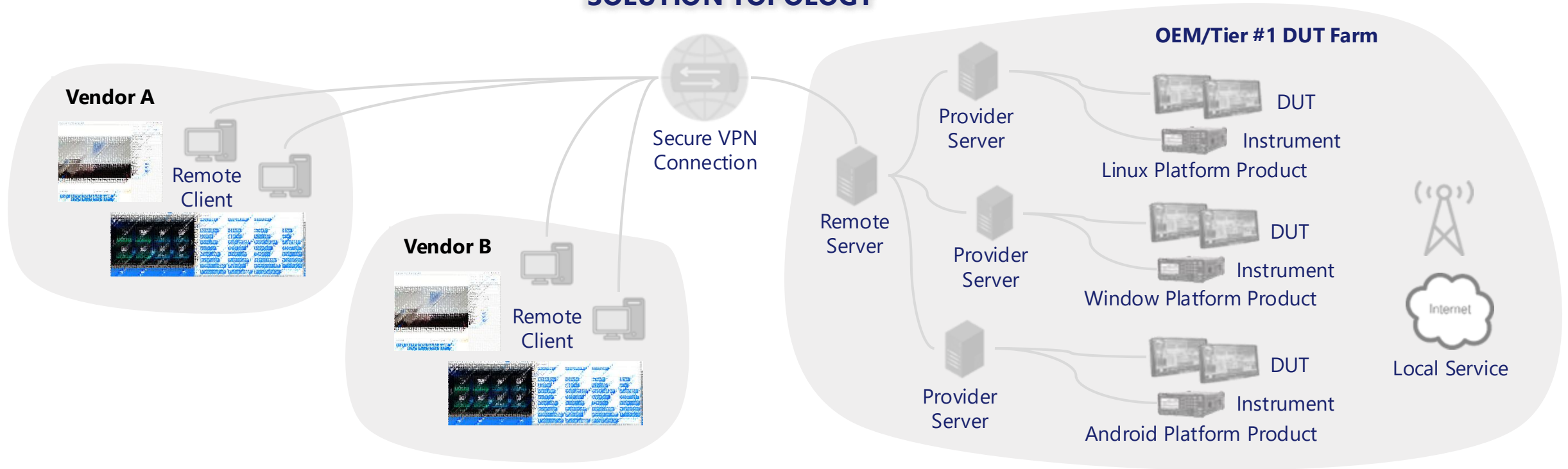
~30k

Km road testing





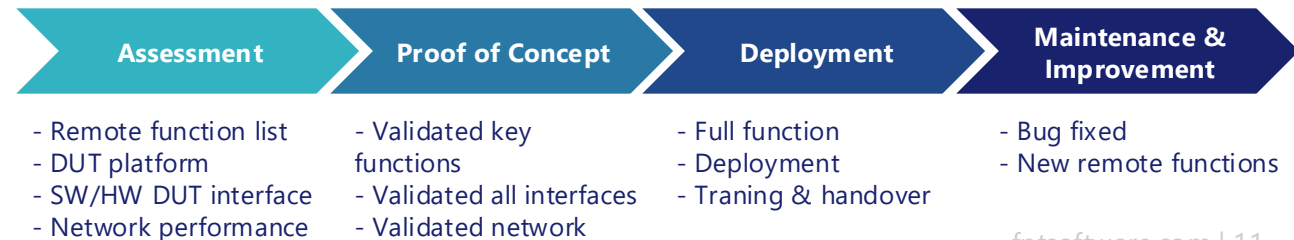
## SOLUTION TOPOLOGY



## KEY FUNCTIONS

- USB Switcher
- Hard Button
- Power Switcher
- Voice Streaming
- Single/Multi Touch
- Screen Record
- Screen Streaming
- Get Log
- Audio Record
- Audio Streaming
- Last Minutes Record

## DEPLOYMENT STEPS

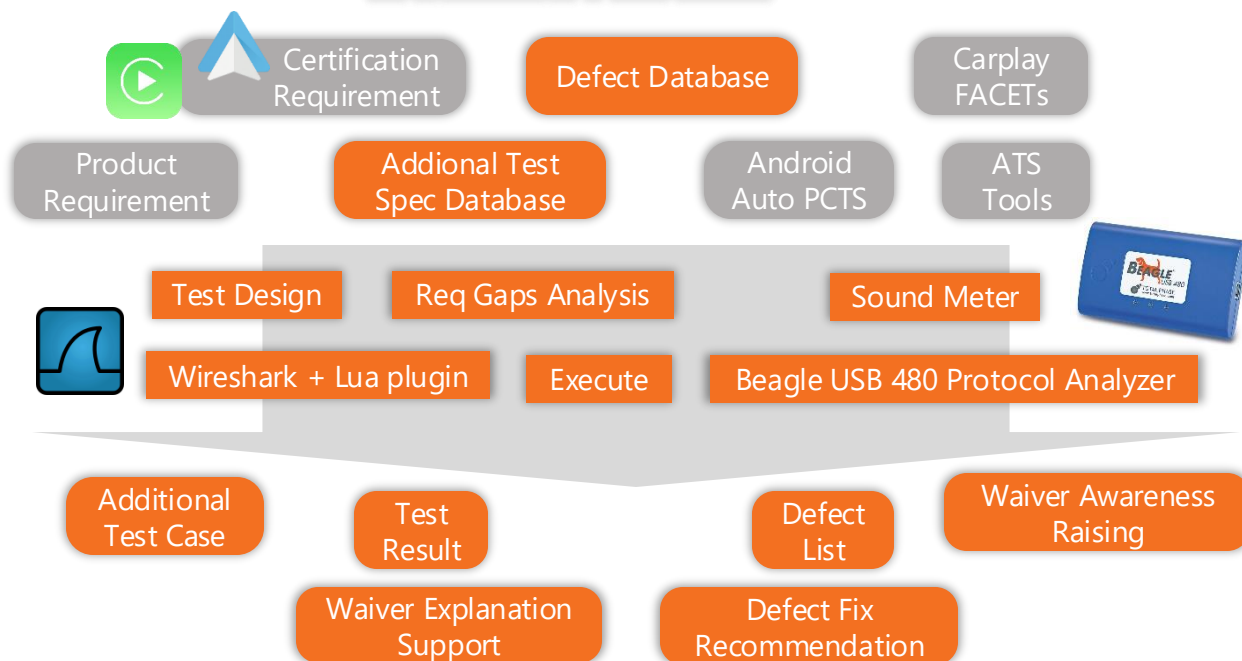




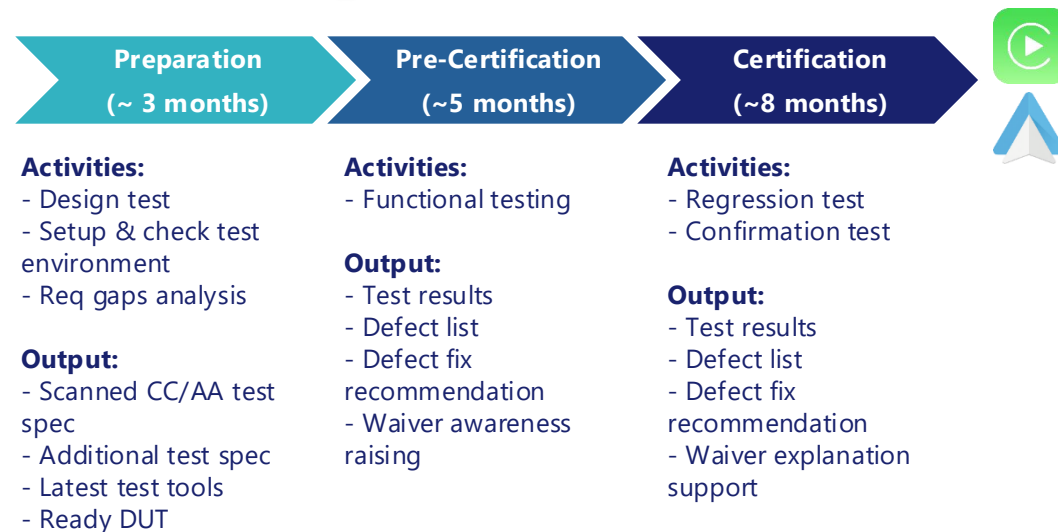
# PRE-CERTIFICATION TESTING



## WORKING PROCESS



## TYPICAL CP/AA CERTIFICATION SCHEDULE



Reduce certification submission attempts & time by leveraging our defect database, additional test spec, and waiver explanation experience

## SERVICES BY NUMBERS

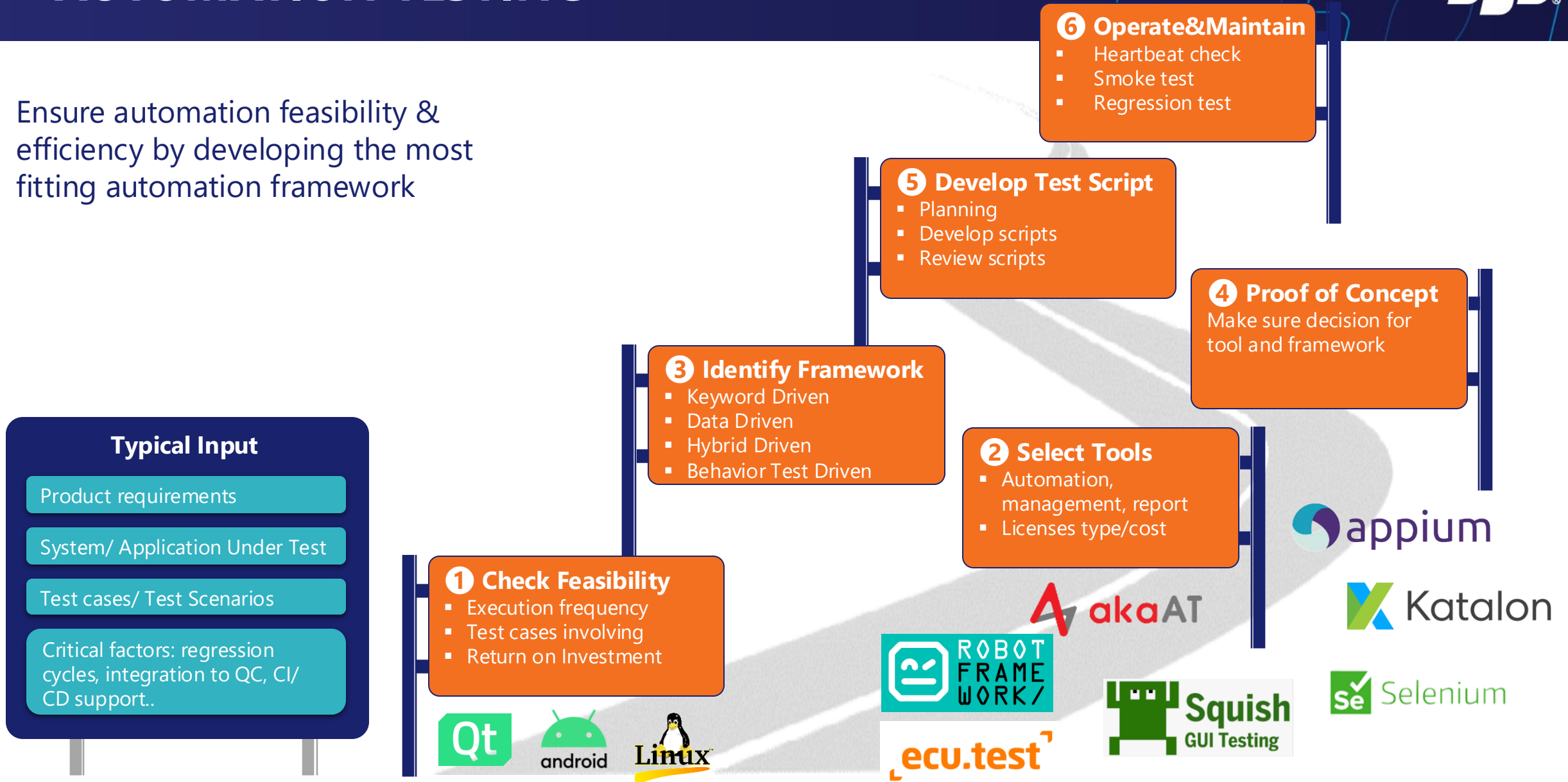




# AUTOMATION TESTING



Ensure automation feasibility & efficiency by developing the most fitting automation framework







# REASONS TO PARTNER WITH US



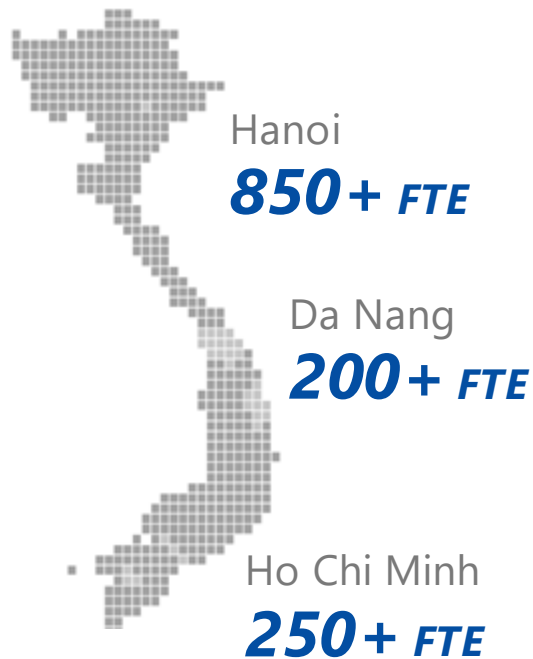
# AN ABUNDANT AND HIGHLY SKILLED WORKFORCE



*Confidently respond to your complex, high-volume demands*

## 1,300+ members

(\*) 900 QE members as total of IVS unit. 4,000 QE members as total of FPT Software



**Distributed By Cities**

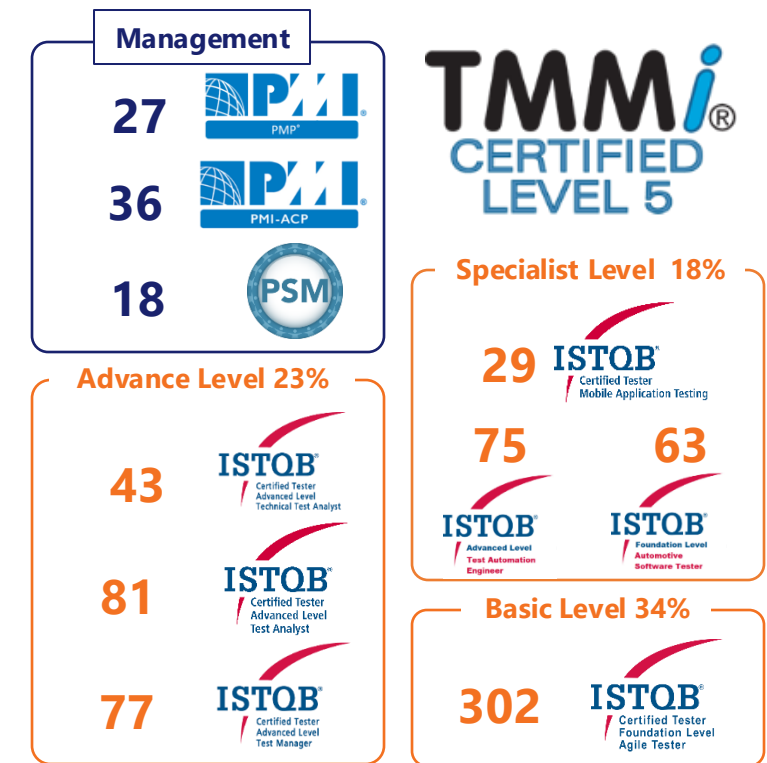
**480+ Manual Quality Control/Assurance**  
40% senior

**270+ Automation Test Engineer**  
45% senior

**140+ Full Stack Quality Engineer**  
50% senior

**40+ Quality Consultant**  
100% expert

**Distributed By Expertise**



**Distributed By Certifications**



# INDUSTRY/ TECH EXPERTS



*Common technical senses, view product through user's eyes.*

## Automotive



## Energy



## BFSI



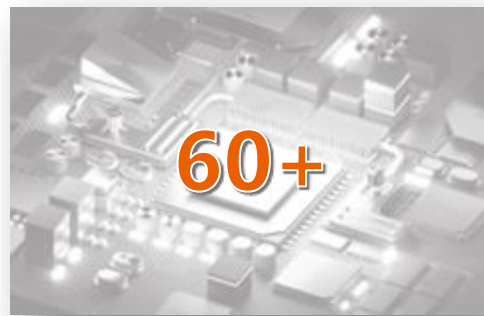
## Retail



## Healthcare



## Embedded, HW



## Data, Cloud



## Conventional



## Number of engineers

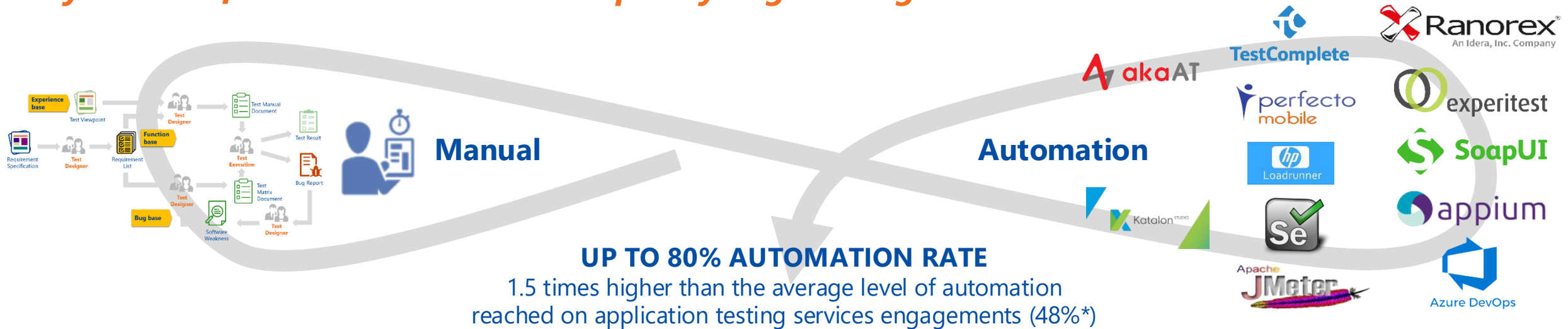
(might more than one expertise at an engineer)



# UNIQUE SERVICES



## Synthesis of manual & automation quality engineering



### COST SAVING

Our combination of flexible delivery model, ready-made tools and industry know-how enables an average reduction of **15%** on total test cost



### SPEED

Save up to **25%** time spent on testing process and software release when applying automation test



### ACCURACY

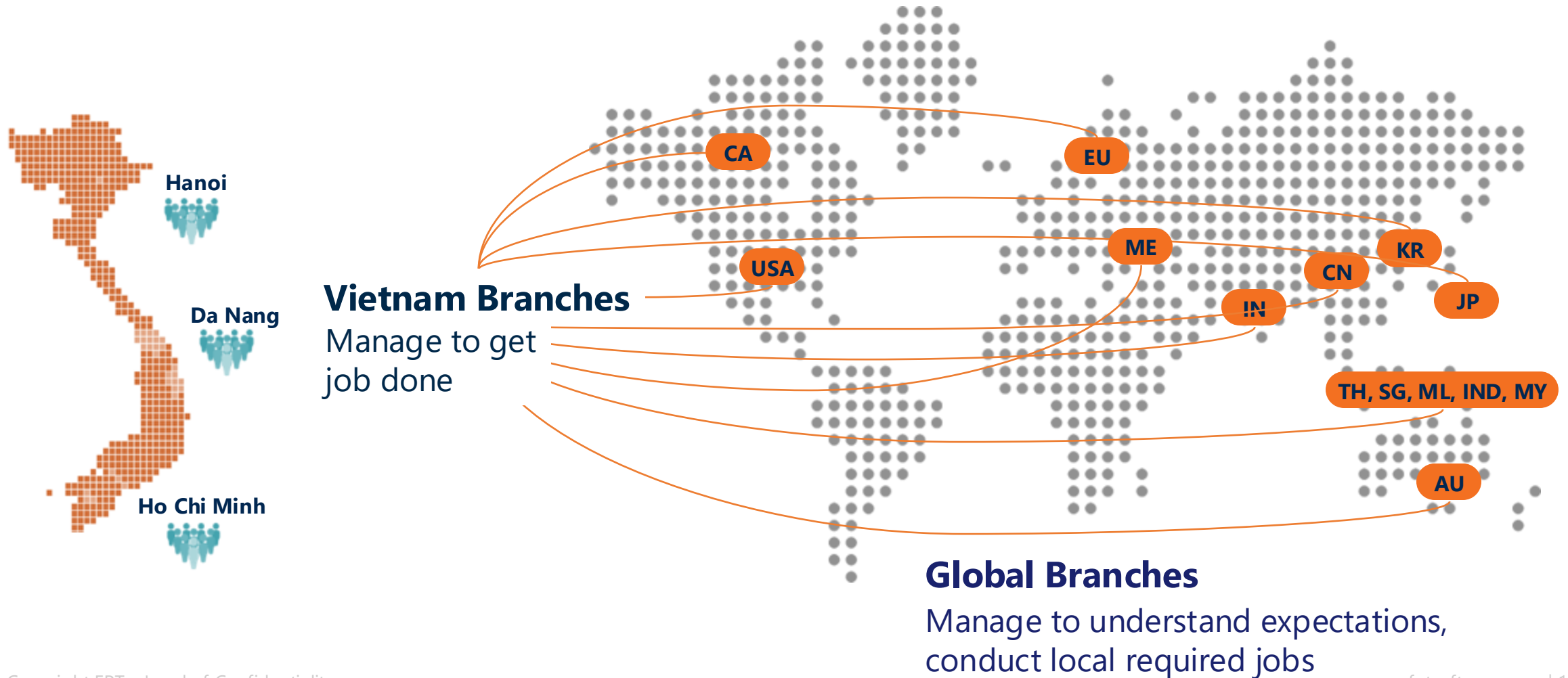
Able to reach up to **90%** with manual test and **99%** when applying automation test.



# OUR GLOBAL FOOTPRINT



*We are where our customers are*





# STRONG INFRASTRUCTURE AND BUSINESS SUPPORT

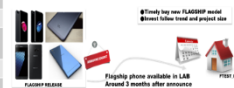


## Your trusted partner

### Test Equipment Ready

Type	Machine/Device name	Current	Detail	Owner	Brand
Signal Generator	DAB/RDS	2	RWC2010B	FPT	Radwood Comm
	DMB	1	SMB 100A	FPT	Rohde & Schwarz
	TMC	1	TC-2300 B	FPT	Tescom
	DAB	1	URT-5000	Rent	Avema
ETC	CANoe	3	DAB Ventus2.0	FPT	Lumateck
	CANcaseXL	1		FPT	Vector
	T32 <Base Unit>	5	Base unit	FPT	Lauterbach
	T32 <Debug Cable>	6	Debug Cable	FPT	Lauterbach
Smartphone & Electronics consumer	Oscilloscope	2		FPT	Tektronix
	Power regulator	3	AK3005D	FPT	Vupower
	iPhone	200		FPT	
	iPad	79		FPT	
	Android phone	500		FPT	
	USB	Unlimited		FPT	
	iPod	14		FPT	
	Memory	Unlimited		FPT	

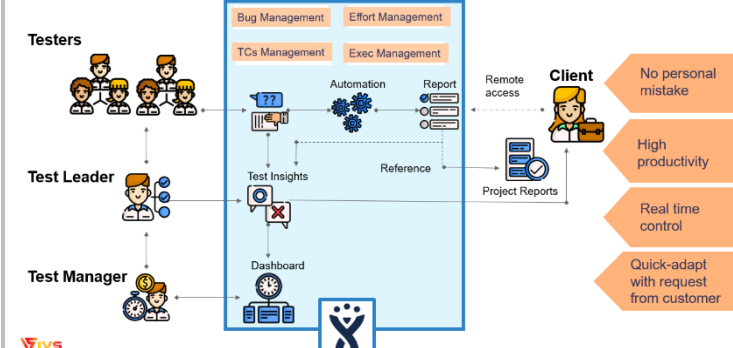
◆ FTEST Lab will provide the common latest professional equipment so that will help you save your budget



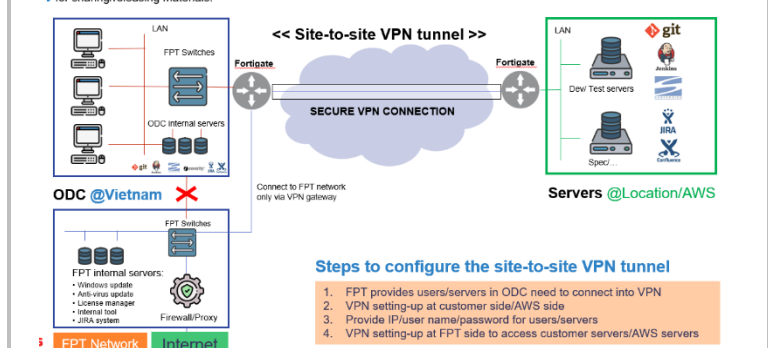
◆ FTEST Lab continuous invest more money to buy the latest devices version and support customer in some special cases like "FTEST buy very expensive devices to get big team"



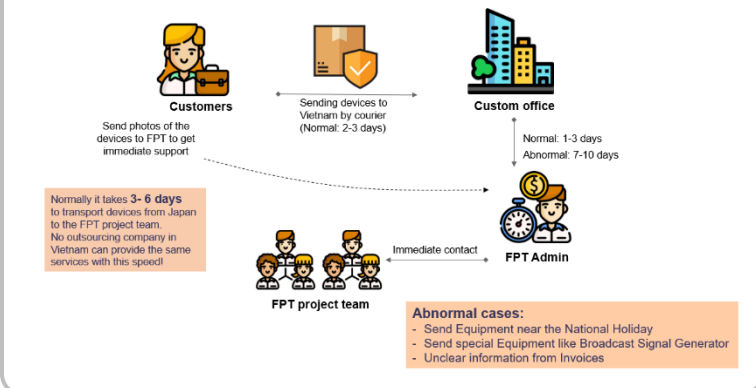
### Management Tool Ready



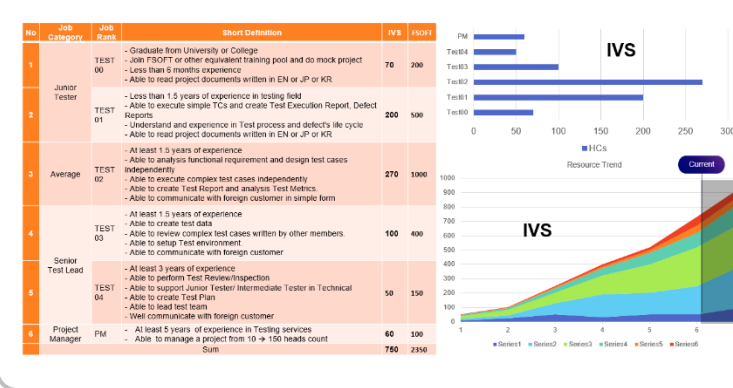
### Information Security Ready



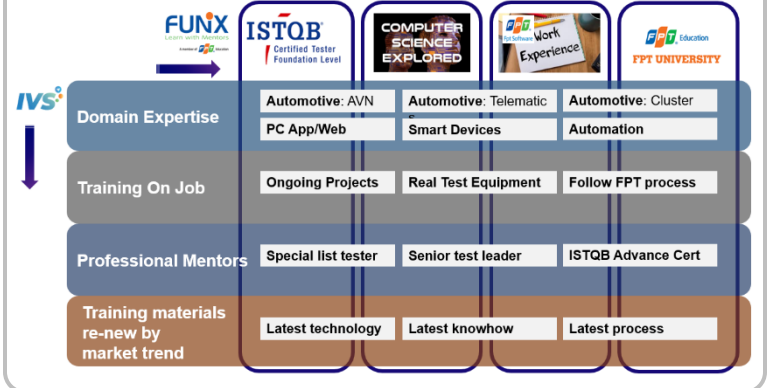
### Quick Equip/Staff Transport



### Clear Career Path



### Education







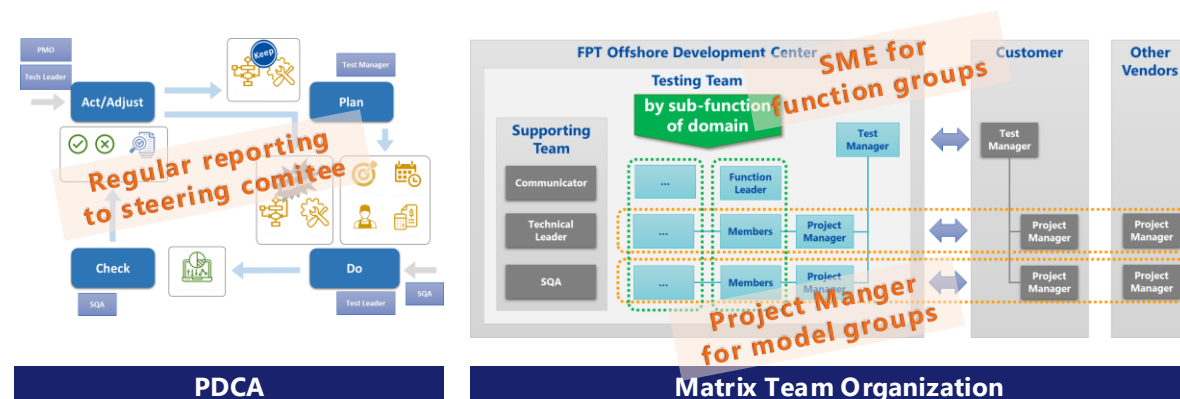
# SUCCESS STORIES



# DIGITAL COCKPIT SYSTEM TESTING FOR A JAPANESE CUSTOMER



<b>Client Info</b>	<ul style="list-style-type: none"> <li>Top automotive devices and parts company</li> <li>Country: Japan</li> </ul>
<b>Business Need</b>	<ul style="list-style-type: none"> <li>System test design</li> <li>System test execution</li> </ul>
<b>Project Info</b>	<ul style="list-style-type: none"> <li>Over 8 years strategic collaboration</li> <li>An Oversea Development Center in Vietnam + a small team in client site in Japan</li> <li>Team size: 30 ~ 170 members</li> </ul>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>Huge number of models and functions</li> <li>Limited device under test, test environment</li> <li>Resource up/down by seasons</li> <li>Performance &amp; quality improvement pressure</li> </ul>
<b>Solutions</b>	<ul style="list-style-type: none"> <li>Matrix team organization by: SME for each function groups, project manager for each model groups</li> <li>Propose and develop remote testing solutions</li> <li>Customized knowledge training and retention process</li> <li>Regular PDCA reporting to steering committee</li> </ul>
<b>Results</b>	<ul style="list-style-type: none"> <li>32 launched products with no major defect in the market</li> <li>100% on time major milestones</li> <li>5~10% scope can be conducted remotely</li> </ul>

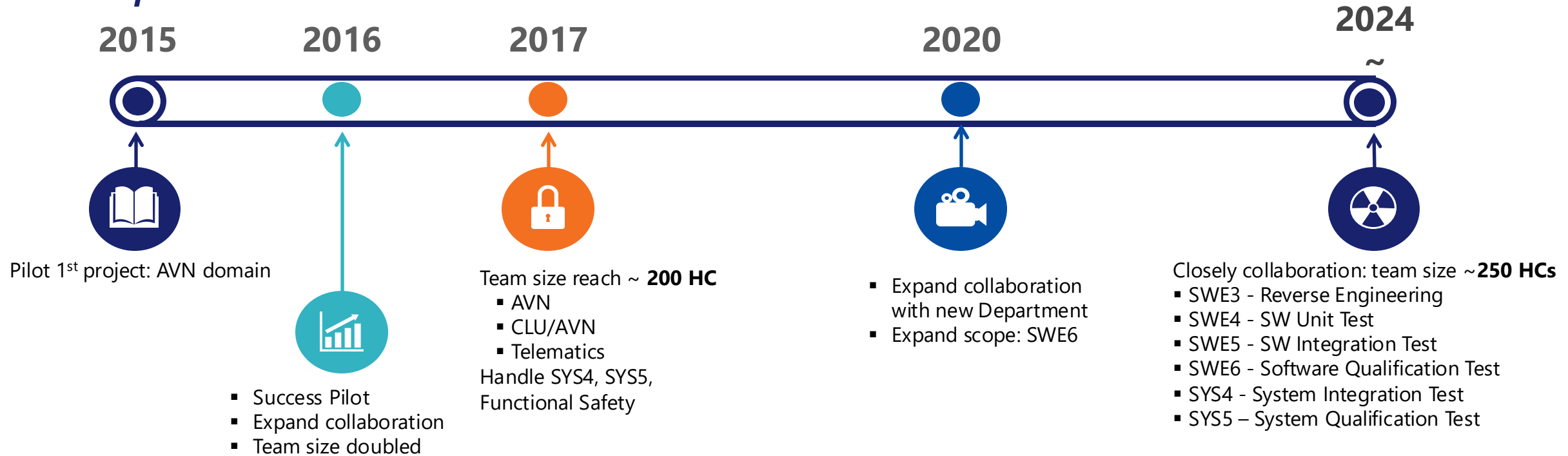




# INFOTAINMENT TESTING FOR A KOREAN CUSTOMER



## Partnership Timeline



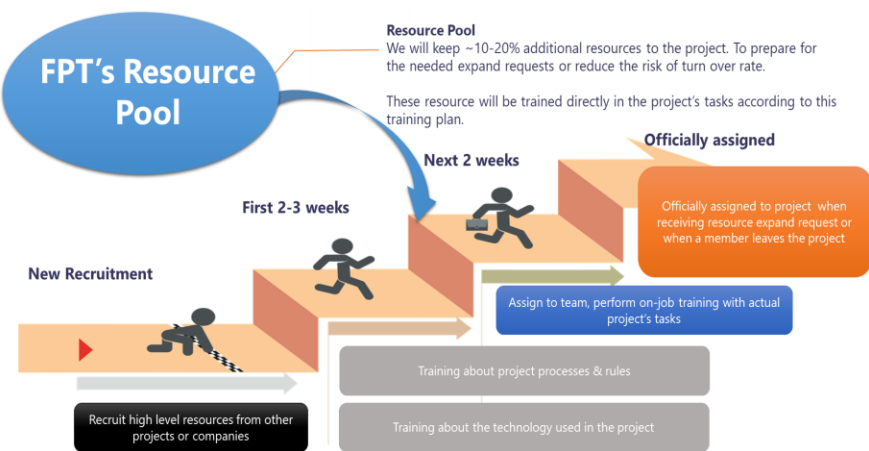
## Achievements

After 9 years collaboration with customer:

- FPT team co-worked with customer to verify 6 automotive products (AVN/CLU/CCIC/HUD/WCM/Telematics): Ontime delivery, High Automated rate
- Zero critical defect in market
- Productivity growth at least 5% per year
- High Customer Satisfaction Score
- Cooperate with customer to improve process and products quality to get ASPICE certificates
- Established the system for monitoring KPI, Knowledge Sharing & Training, Resource Utilization & Sharing



# INFOTAINMENT TESTING FOR A KOREAN CUSTOMER



FPT's Resource Pool

Project Code	Summary	Complaint	PM	Issue	Delivery Risk	Escalation	Summary	Complaint	QA's	Issue	Delivery Risk
<input type="checkbox"/> Multi Automation S2_2023	>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> IncomeAuto2024	>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> KR51	>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> KRCA	>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

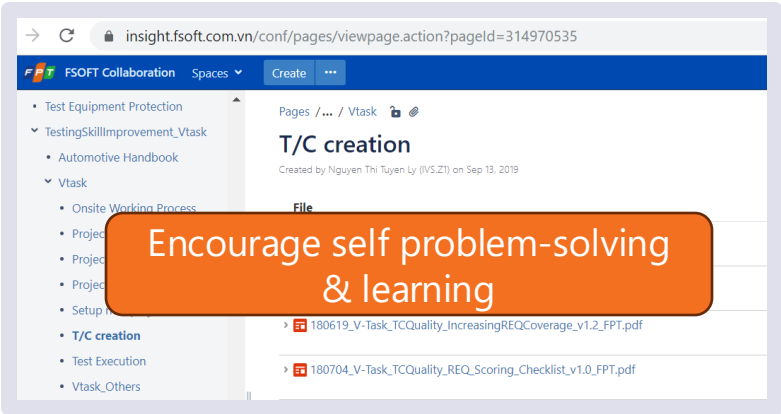
Weekly review Q-C-D-P with steering committee to have timely action



Monthly review with steering committee to have timely action

Project Monitoring Report System

KPI Monitoring Dashboard



Encourage self problem-solving & learning

Asset Code	Asset Type	Description	User	QM Account	Department	Legal	Response	Legislation
CA-02008	Customer	MINI POINTEL NUC	Huong Van Hoa - HoaVH2	PSD	PSD	Group	In used	HA/NO/Kiangnam
CA-02008	Customer	MINI POINTEL NUC	Huong Van Hoa - HoaVH2	PSD	PSD	Group	In used	HA/NO/Kiangnam
LAP-00001	Customer	MAC Book	La Thi Giang - GiangT7	PSD	PSD	Group	In used	HA/NO/Kiangnam
LAP-00002	Customer	MAC Book	La Thi Giang - GiangT7	PSD	PSD	Group	In used	HA/NO/Kiangnam
LCSC-00007	Customer	License IBM J9C for hardware OTHER	Huong Van Thuan - ThuanV2	PSD	PSD	Group	In used	HA/NO/Kiangnam
LCSC-00009	Customer	License IBM J9C for hardware OTHER	Huong Van Thuan - ThuanV2	PSD	PSD	Group	In used	HA/NO/Kiangnam

Guarantee human resource usage efficiency

Employee ID	AVN Navigation	AVN Voice Recognition	AVN Vehicle	Testing Skill Average	Requirement Analysis	Test Design	Test Execution	Envi Setu
		3.0	-	3.0	3.0	3.0	3.0	
		3.0	-	3.0	3.0	3.0	3.0	
		3.0	-	3.0	3.0	3.0	3.0	
HoaDT16	4.0	3.0	4.0	2.8	2.0	1.0	4.0	
HuongNT50	4.0	3.0	4.0	2.8	2.0	1.0	4.0	

Shared Knowledge & Training System

Resource Utilization & Sharing System

Human Resource Skill Inventory



# VEHICLE SERVICE TESTING FOR VIETNAMESE OEM



## BUSINESS NEEDS

- System testing for 8++ electric vehicles
- Bench, lab, field test environment
- Test planning, design, execution, reporting
- Takeover from India vendor
- 60 engineers engaging from quality project manager to quality engineer level

## SOLUTIONS

- Process: detailing steps & specialize roles those anyone can do in same optimum way
- Traceability: cooperate with tool PIC to make it highly adapt with process/input/output
- Defect miss: document map to reduce req miss, developer for pre-analysis to reduce technical miss
- Takeover: prioritize & observe actual operation
- Working location: mix dispatched & local resource in US/EU for field test to utilize both project & field experience
- Resource: restructure roles per position to harmonize client needs & responds capability



### Test REQ:

- Smart service & Body Testing
- FOTA Testing
- MHU Testing (SYS 5)

Duration : ~ 2 years



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### Test REQ:

- Smart service & Body Testing
- FOTA Testing
- MHU Testing (SYS 5)
- Field Test

Duration : ~ 2 years



### Test REQ:

- Smart service & Body Testing
- FOTA Testing
- MHU Testing (SYS 5)
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**THANK YOU!**

