

Transparent & Enhanced
Collaboration
Experience




25%
Effort
Reduction

20%
Shorter
Time to
Market

LeapX
Powered by **BOSCH**

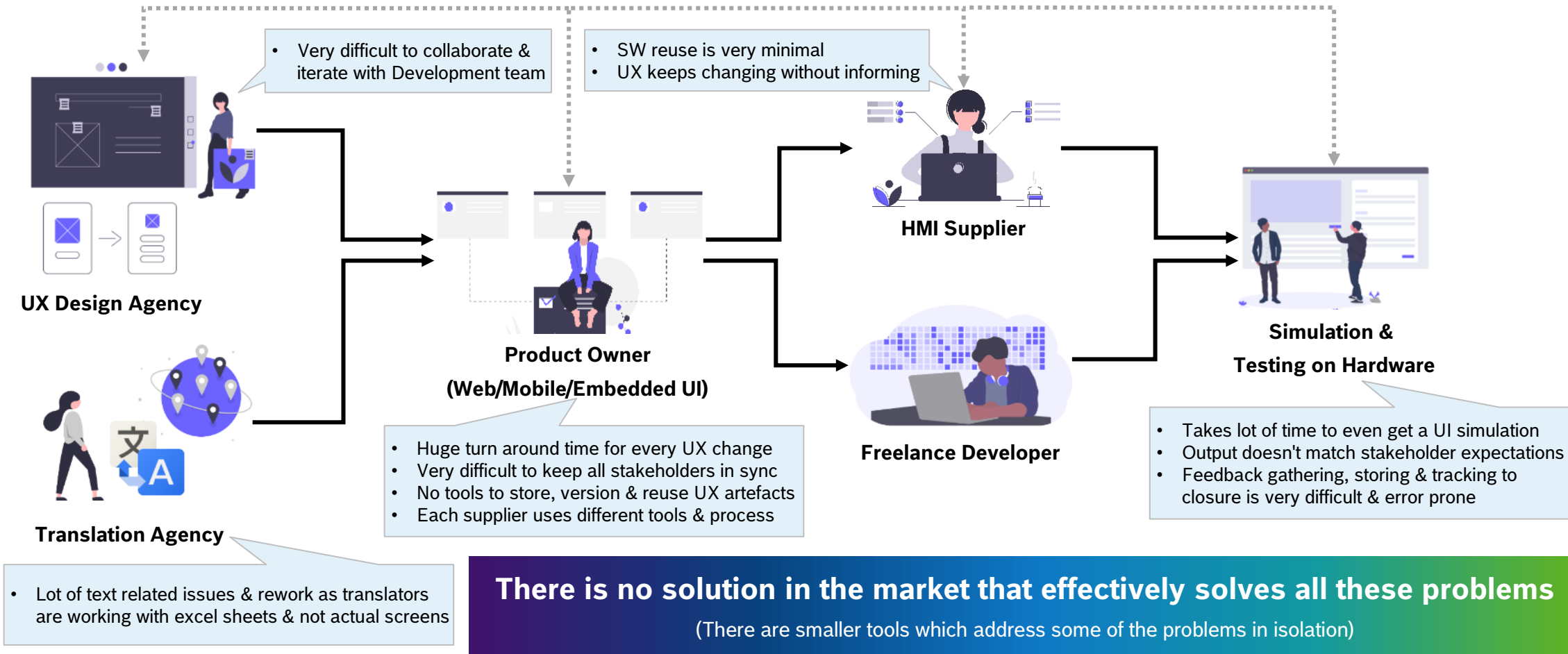
Next gen cloud based platform for HMI SW engineering

Agenda

1. Overview Presentation  10
2. Live Demo  30
3. Discussion & Next Steps  20

PROBLEM

Problems currently faced in HMI development



Where the problems are seen...

Problems faced across domains in Embedded, Mobile & Web UIs

Automotive



- ▶ Infotainment
- ▶ Instrument Cluster
- ▶ Mobile & Web apps

Consumer Electronics



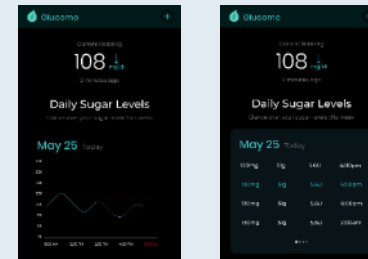
- ▶ Home Appliances
- ▶ Coffee Machines
- ▶ Printers
- ▶ Mobile & Web apps

Industrial



- ▶ HMI panels
- ▶ Equipment Displays
- ▶ I4.0 Visualization
- ▶ Mobile & Web apps

Healthcare



- ▶ Medical Device
- ▶ Mobile & Web apps

Digital



- ▶ Dashboards
- ▶ Websites
- ▶ Mobile & Web apps

KEY

DRIVERS

Product owners want to quickly upgrade & continuously enhance UX (to differentiate & keep up with customer expectations)

UX & UI requires lot of stakeholders & rapid iterations

Customers feel SaaS allows max flexibility & enhanced collaboration

SOLUTION

A Holistic Approach to Solving HMI Development Challenges

Cloud based platform to effectively collaborate & manage HMI requirements, assets, simulations & specifications

Problems in HMI

High Turnaround Time & Maintenance Cost

Little Reuse of Assets & requirements

Limited Automation

Requirements Gaps & Defects

Missing/ Wrong Requirements Understanding

Visual & text related Issues

Mismatching stakeholders expectations

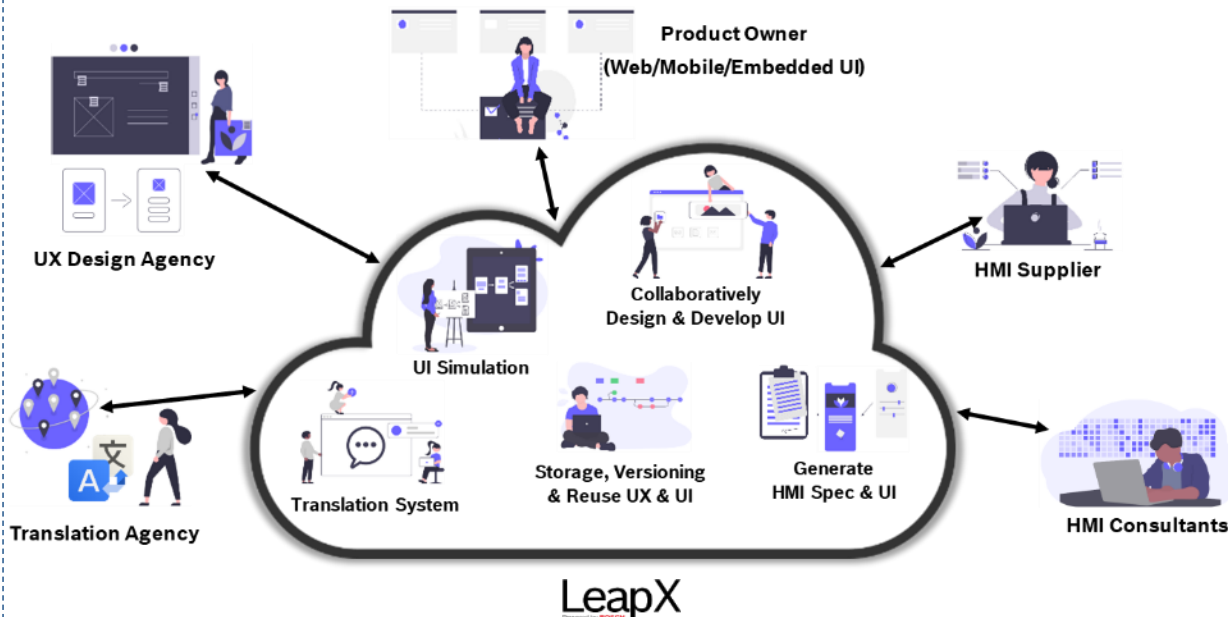
Look & Feel

UI Behavior

Quality

Highly complex & Error-prone HMI Variants Management

Solution – LeapX



LeapX – Benefits

Up to **25%** reduction in HMI visualization change handling & release, through asset Automation and Reuse

Up to **20%** reduction in HMI visualization release turn around time

Early simulation & detection of visual & performance issues

Transparent & Enhanced collaboration experience for all stakeholders

Easy variant management and multi-language text translations management with text fitment validation

Leading European Luxury Automotive OEM

- ▶ Successfully completed
- ▶ Done for existing OEM graphics & animations
- ▶ Covered all features in LeapX
- ▶ Hands-on experience provided

“Very happy about the result & way we worked”

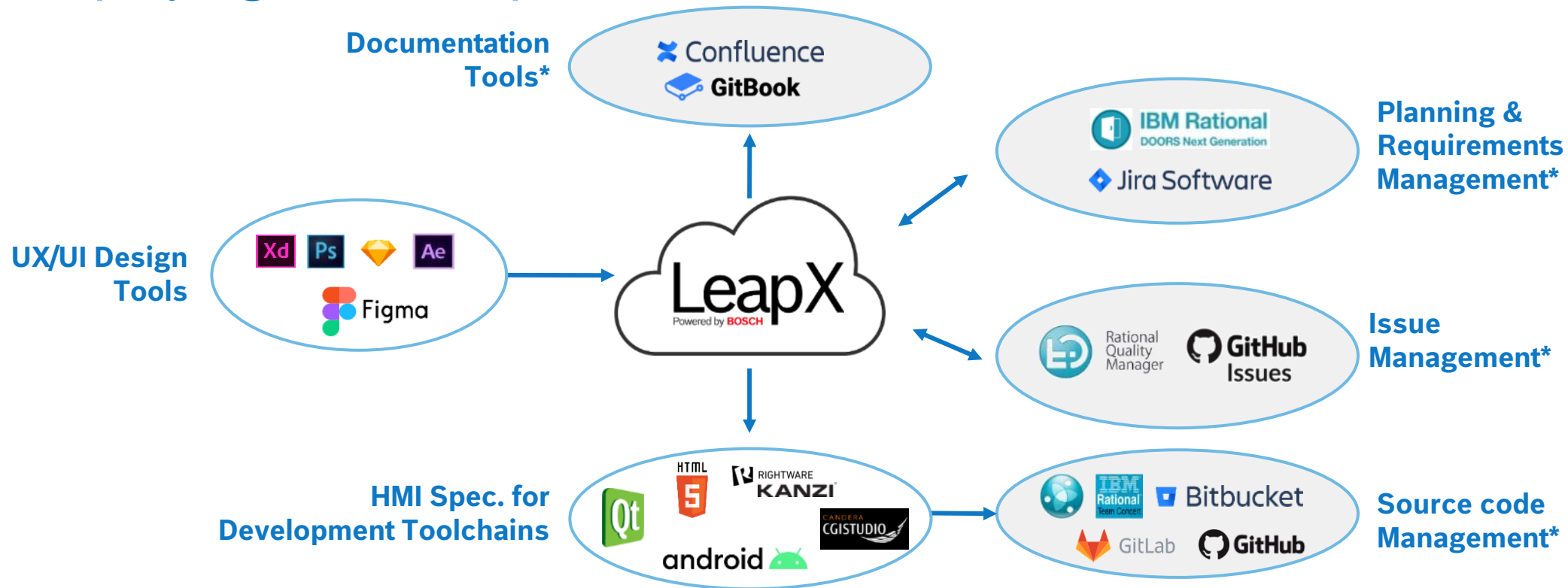
Leading European Premium Automotive OEM

- ▶ Currently discussing scope (UX, UI & Translations)
- ▶ For existing OEM graphics & animations
- ▶ High number of variants & complex requirements
- ▶ Various stakeholders, suppliers & access restrictions

“LeapX appears to hit the nerve of the problem”

We are working with the OEMs to provide a solution for their problems using LeapX

Simplifying HMI dev process & workflow across tools



* Integrations planned in Product Roadmap

LeapX helps simplify HMI Development Process, Manage UX Designs & Requirements on Cloud for Global Teams that use various tools (by providing 3rd party tools integrations/plugins & workflow management features)

How it works – Birds eye view

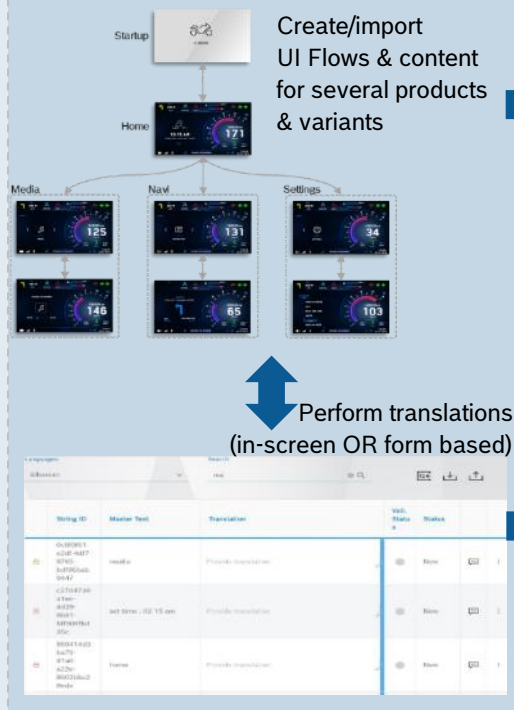
UX & UI design creation (Sketch/Photoshop/Adobe XD)



- ▶ Create & edit screens as usual using design tools (no restrictions/constraints as with Standard HMI)
- ▶ Export screens using **LeapX Exporter plugin**
- ▶ Plugin will be available for Sketch, Photoshop & Adobe XD



HMI Configuration & Translation



LeapX – Hosted on cloud

Rapid HMI Web simulation: UI flows, screens & translations



- ▶ HTML & JS based simulation of HMI
- ▶ UI flows & screens testing using key press events
- ▶ Content & Translations testing

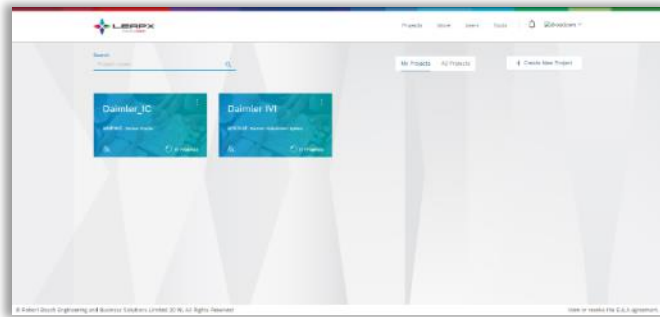


Quickly Generate HMI Specifications, UI Layout and Translations

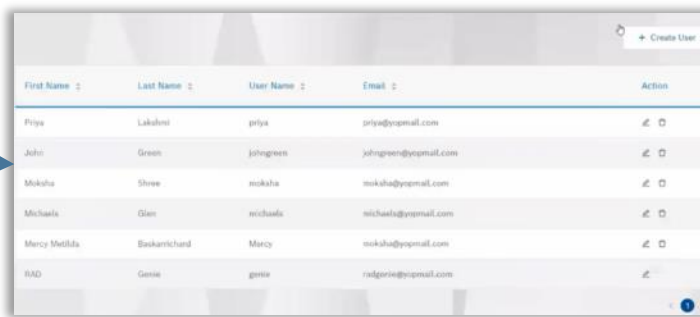


- ▶ HMI Specifications in PDF or HTML format
- ▶ UI Layout & Angular UI Code
- ▶ Translation files for supporting localization implementations

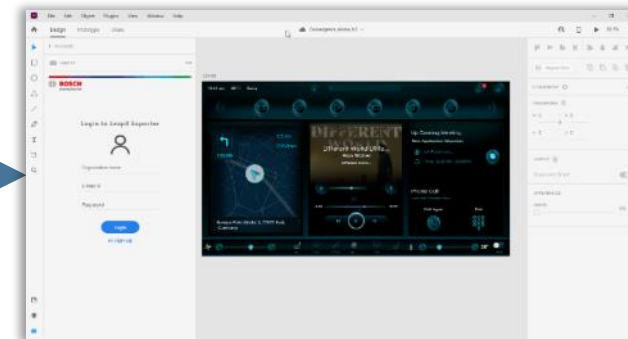
How it works – General workflow



1 Create/Clone Projects & Variants



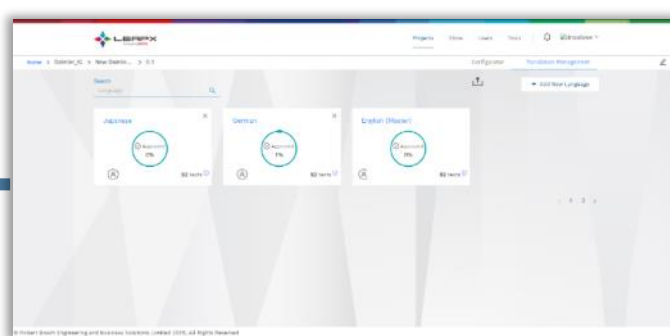
2 Invite users, assign roles/permissions & define approval workflows



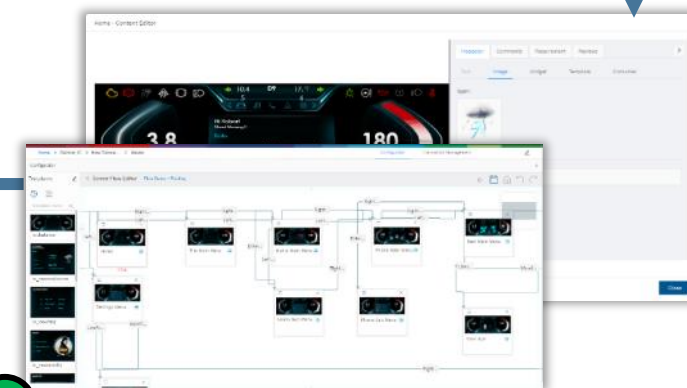
3 Import HMI assets & Store/Version it



6 Simulate HMI, Get feedback/approval, Generate HMI Spec. & Layouts for Dev. team



5 Perform AI assisted & Pixel perfect Text Translations



4 Create/Edit Screen contents & Transitions

All stakeholders can easily work & collaborate on the HMI project directly on the cloud

Convergence HMI demo with LeapX:

- Assets Import
- HMI Configuration – Sample Flows
- Simulation Preview
- Requirements Definition
- Specification Generation
- Translation management
- Review workflow



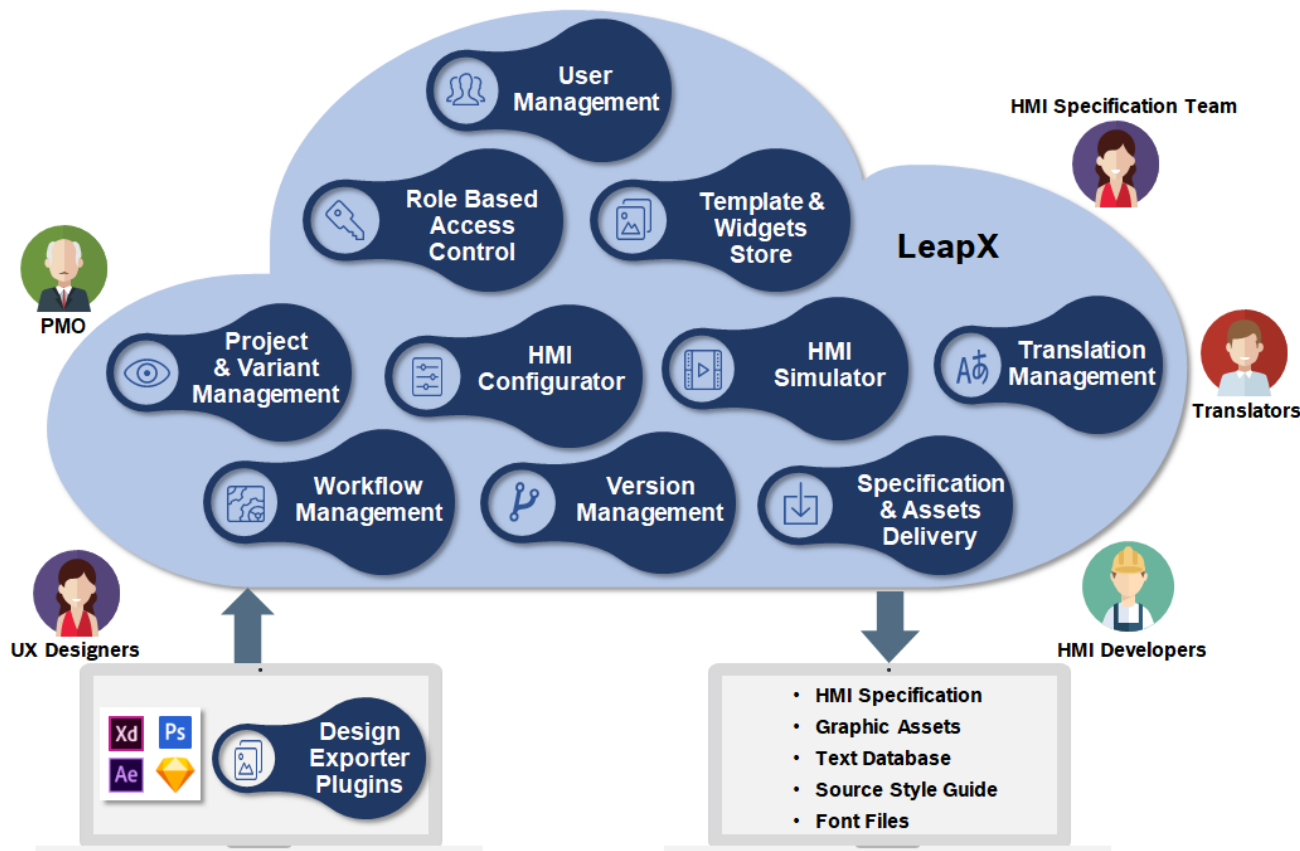
LeapX

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Summary



“Seamlessly collaborate across teams to quickly iterate & deploy UX/UI across product lines & variants”



- ▶ Bi-directional traceability between requirements & graphics
- ▶ Text translations with pixel perfect fitment validation
- ▶ Supports custom animations from Adobe After Effects
- ▶ Quick simulations & collaboration
- ▶ Re-usable HMI assets & requirements
- ▶ Automatic HMI Spec. generation:
 - ▶ Interactions, Screen content, layout & behaviors
 - ▶ Text Translations
 - ▶ Assets & Requirements versions & variants
 - ▶ Visual change logs
- ▶ Support for voice based interactions under development

Open Discussion



LeapX for enterprise customers

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	Items	
Base offering	<p><u>LeapX License for <<N>> Months - (Pack of <<N>> users)</u></p> <p>All LeapX features including (but not limited to)</p> <ul style="list-style-type: none">▪ Graphical assets and requirements storage, versioning & management▪ HMI project & variant management▪ Adobe XD Exporter plugin (To LeapX and HTML)▪ Adobe AfterEffects Exporter plugin (To LeapX)▪ HMI flow/interactions configurator▪ Screen Configurator▪ Layout & screen inspector▪ Translation Management System▪ Text database generation▪ Real-time length validation of strings▪ Web based HMI simulator▪ HMI specification generation▪ User, roles & permissions management▪ Workflow management <p>Note: Customer would also be able to access & use new features added into LeapX during the license period.</p>	
Add-ons & Customizations	Customer specific customizations & tools integrations	
Custom Deployments	Deployment options for Customer	Hosting on cloud managed by Customer

Hosting on cloud managed by Bosch

- Supports up to <<N>> active users ('View' access for more users at no additional cost)
- Unlimited projects & variants
- Unlimited graphics storage & versions on cloud

Includes Basic Support

- Onboarding training (8 hours of training, one-time at the start)
- Access to Online Training Videos
- Bug-fixes
- Support requests to be made through Email, with response time of 2 business days.

PoC PROJECT

LeapX PoC Project for Customer

Collaborative HMI Requirements, Assets & Spec. Management

Objective:

A PoC (Proof-of-Concept) project for Customer to experience LeapX platform to effectively collaborate & manage HMI requirements, assets, simulations & specifications using actual Customer UX/HMI assets & process.

Overview:

The PoC will involve a sample project which will represent an actual HMI project in Customer. LeapX team will realize the actual use-cases/scenarios in LeapX. Customer team will be able to get hand-on with these implementations and work on it to better understand LeapX benefits & how it can be used effectively for their series HMI projects.

Inclusions:

- LeapX access for 25 users (includes different Roles & Permissions)
- Project specific setup & configurations
- All LeapX features demonstrated in PoC
- Specification Generation
- Dedicated support throughout the PoC
- LeapX trainings for users
- Periodic review of progress
- Conclusion & enhancements required specific to Customer

Out of Scope:

- Concept Design or Graphical asset creations
- Any HMI Software Development or realization in actual targets (HMI toolchain/Hardware)
- Any Certifications or Qualifications

Assumptions:

- PoC to be done on Bosch hosted instance of LeapX on AWS
- Relevant UX/UI designs and assets would be provided by Customer

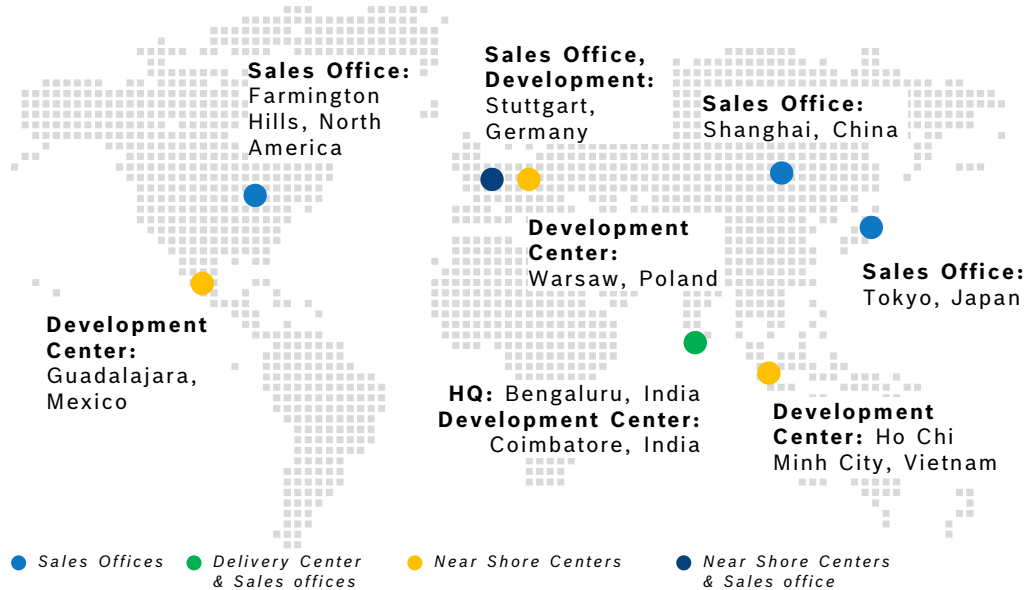
LeapX PoC Project for Customer

Recommended Approach

Phase	Preparation & Setup	Execution & Review	Hands-On & Conclusion
Duration	2 weeks	4 weeks	2 weeks
Scope	<ul style="list-style-type: none"> ▪ Customer & LeapX teams define scope of PoC <ul style="list-style-type: none"> • Finalize use cases to be considered • Agree on project configurations and reuse across screens / variants / displays / product-lines • Features / Screens / Interaction flows • Languages • Complex scenarios & edge cases ▪ Evaluation criteria to be agreed <ul style="list-style-type: none"> • Attributes and weightages for use-cases & features 	<ul style="list-style-type: none"> ▪ LeapX team implements the use cases in LeapX ▪ Customer to share relevant inputs for agreed features ▪ Customer team can view real-time changes through LeapX 	<ul style="list-style-type: none"> ▪ Hands-on trial by Customer team ▪ LeapX team to support Customer team as required ▪ Conclusion Workshop
Receivables/ Actions (Customer)	<ul style="list-style-type: none"> ▪ List of languages to be supported ▪ Finalize list of features, interactions & screens for PoC ▪ Share list of users & roles required 	<ul style="list-style-type: none"> ▪ Share assets to be used for PoC (Photoshop/Sketch/AdobeXD files & Fonts) ▪ Participate in periodic walkthroughs & reviews 	<ul style="list-style-type: none"> ▪ Analyze implementations by LeapX team ▪ Extend/create/modify implementations ▪ Provide feedback
Deliverables/ Actions (LeapX team)	<ul style="list-style-type: none"> ▪ Set up/configure LeapX for Customer PoC (in Bosch managed AWS cloud) 	<ul style="list-style-type: none"> ▪ LeapX project with Interaction flows, Screen contents, Text translations, Requirements, Reviews, Comments, Simulation & Generated Specification 	<ul style="list-style-type: none"> ▪ Consolidate and share findings/feedback/experiences ▪ Define next steps

Bosch HMI Centre of Excellence (COE)

Global Presence



Solutions – Services – Consulting



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