



Platforms & Solutions

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LTTS Investor & Analyst Day 2018

BEING #1

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LTTS innovation led engineering practices enabled us...



CUSTOMER NEEDS

- Faster Product Development
- Product Differentiation
- Optimize Development Cost
- Automate Redundant Activities



LTTS PROFICIENCY

80+YRS Engineering Heritage



43 Labs

Investments



5 Verticals

Comprehensive Domain Expertise



OUTCOME

51 customer of Top 100 R&D spenders

337

Patents

50+

Solutions, Reusable components & Frameworks

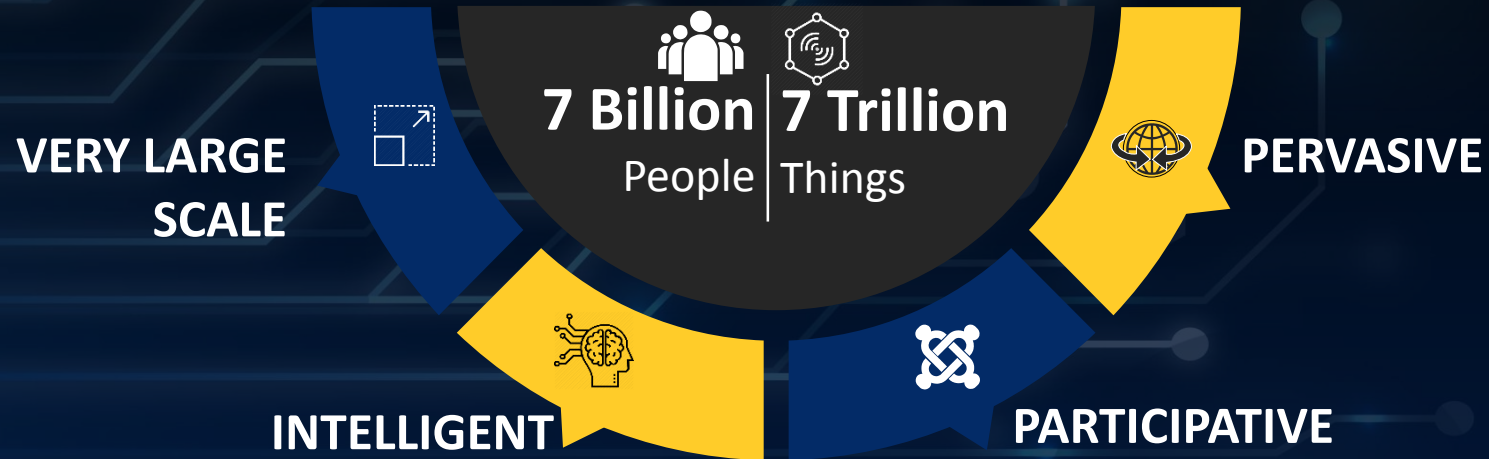
...to create a lot of assets.

OUR JOURNEY SO FAR



Emergence of the Era of Digital Engineering Enabled Platforms (DEEP)

DEEP are not Greenfield but evolutionary with Revolutionary Tendencies



ENABLED BY DIGITAL TECHNOLOGIES

Autonomy

Additive
Manufacturing

Blockchain

Cobots

Cognitive
Computing

Compute
Vision

5G

3D Printing &
Scanning

Sensors

Nanotechnology

IoT Platforms

Optical
Computing

5G Accelerating Disruption

5G - ENABLED INDUSTRIES /USECASES



BROADCASTING & COMMUNICATION



TELECOM SERVICE PROVIDER



OEM



AUTONOMOUS VEHICLE



CONNECTED HOME



INFOTAINMENT



REMOTE MONITORING

APPLICATIONS & TECHNOLOGIES

- Smarthome
- Wearables
- Retail
- Media and Entertainment
- AR, VR & Games



CONSUMER APPLICATIONS

- Telco Infrastructure
- Industrial IoT
- Public Safety
- Enterprise connectivity
- Cloud and Data Center



ENTERPRISE APPLICATIONS

- 5G Modem (NB-IoT, eMTC, 5G - NR)
- Enhanced power Management
- AI chipset



DEVICE

- 5G – RAN & 5G Core Network
- Edge Computing
- NFV Infrastructure
- Test Equipments
- Analytics and AI Tools
- OTN



NETWORK

- IaaS, PaaS
- Telco VNFs
- Orchestration
- Dimensioning & Benchmarking
- Service Automation

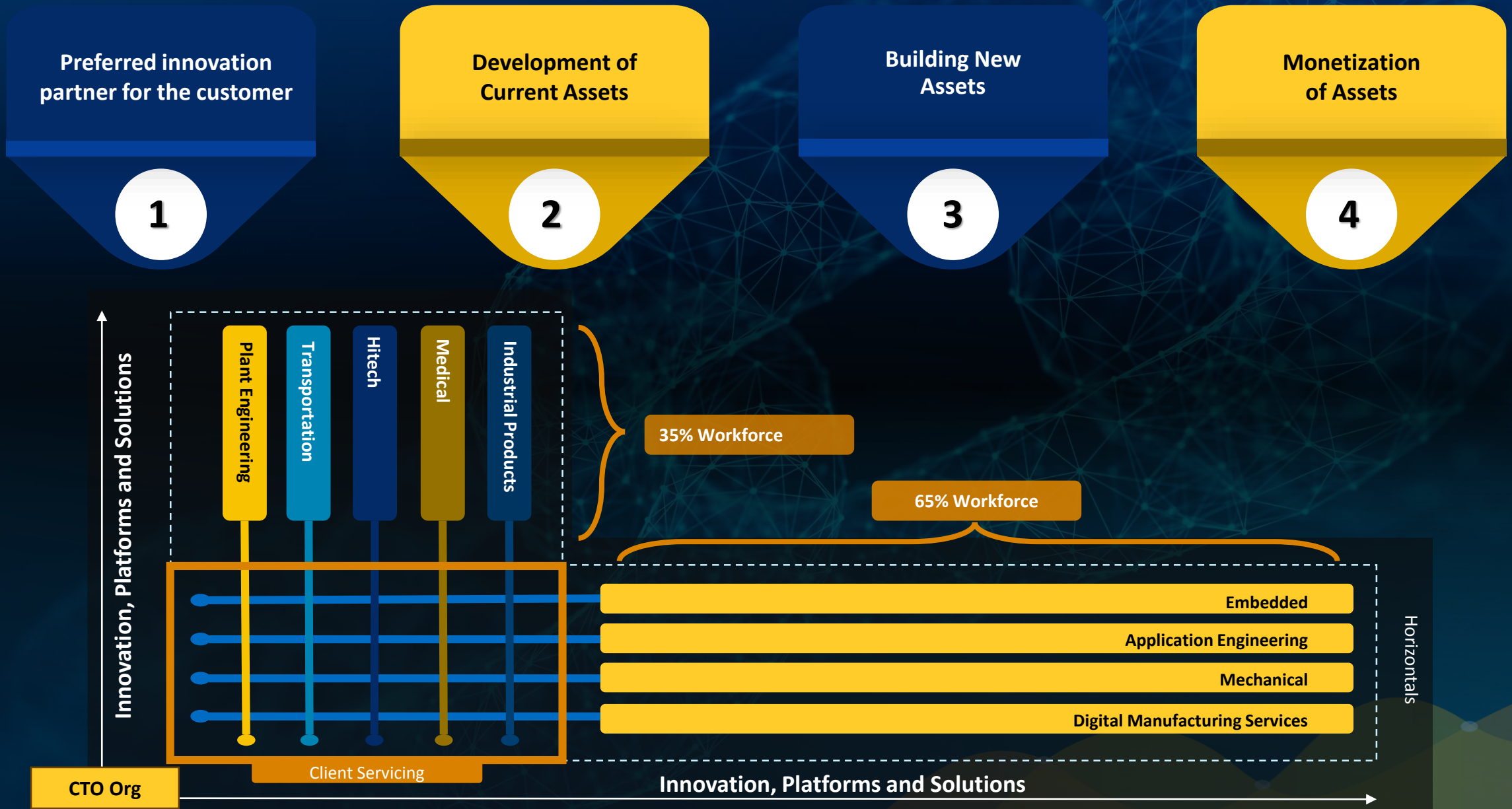


CLOUD ENGINEERING

Compute Vision Platform



CTO Org – Enabling LTTS to go up the value chain



...by optimizing old infrastructure and building new infrastructure...

Cybersecurity – CoE Isreal

1

**AUTOMOTIVE
SECURITY**

2

**HOME NETWORK
SECURITY**

**IOT PLATFORMS
SECURITY**

4

**CYBER SECURITY
SOLUTIONS**

3

10+ Centre of Excellence

17 Nationalities

10 + Avg. Years of Experience

...building multi-vertical frameworks and solutions.



i-BEMS™	AVA
MCare™	Cybersecurity
nBon	VANGEN™
AiKno™	WFA
Compute Vision Platform	DT Robo™
UBIQWeise™	RAPM
VLSI - IPs	WAGES

CTO Group Focus – Monetizing our Platforms



LTTS 2021 Revenue:
USD 1 Billion



IP Revenues 2021:
1%



IP Influenced Revenue :
4 - 5x

i-BEMS™	AVA
MCare™	Cybersecurity
nBon	VANGEN™
AiKno™	WFA
Compute Vision Platform	DT Robo™
UBIQWeise™	RAPM
VLSI - IPs	WAGES

AGILE

...and maturing next-gen platforms....



Intelligent Building Experience Management System

System of Systems | Advanced Analytics



Artificial Intelligence Framework

ML | NLP | Image Processing



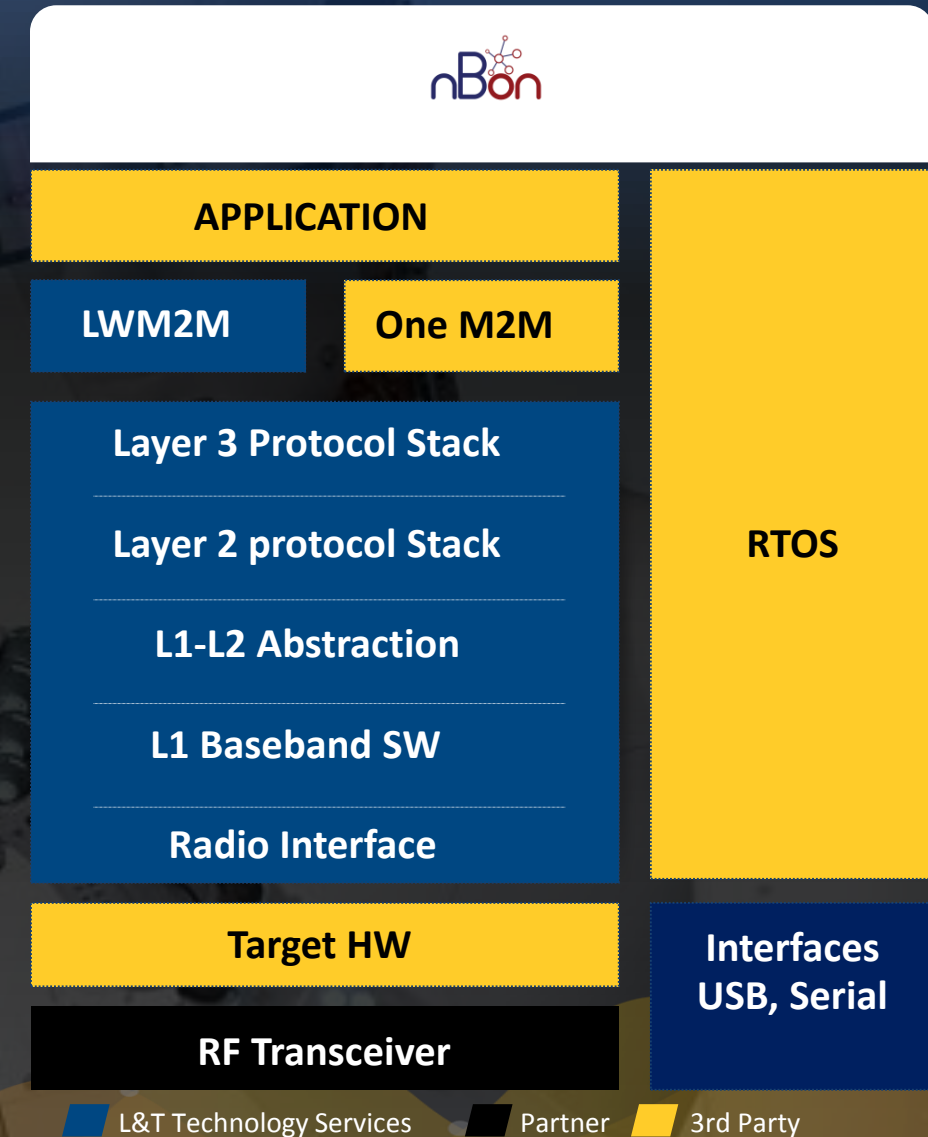
NB-IoT Protocol

Asset Tracking | Smart Metering | Smart Agriculture

UBIQWeise™

IoT Platform

Device Health Monitoring | Data Aggregation | Analytics



POWERED BY



Won the NASSCOM **AI Game Changer Award** for Innovative Application



L&T Technology Services

LTTS AI Framework - AiKno™

Natural Language Processing

Image Processing

Machine Learning



Successful Cases

1. AI based Cognitive system for Metadata Extraction - for Oil and Gas Drilling Major
2. AI based system for better content retrieval and improvement - for Oil and Gas Drilling Major
3. AI based auto tagging system for restricted Semantic Search - for Oil and Gas Drilling Major
4. AI based Supplier Analysis and Comparison - for Transportation Major
5. AI based Information Retrieval System - for Automotive Manufacturer Major
6. Predicting and monitoring Efficiency of Plant – For Construction major

i-BEMS - Intelligent Building Experience Management System

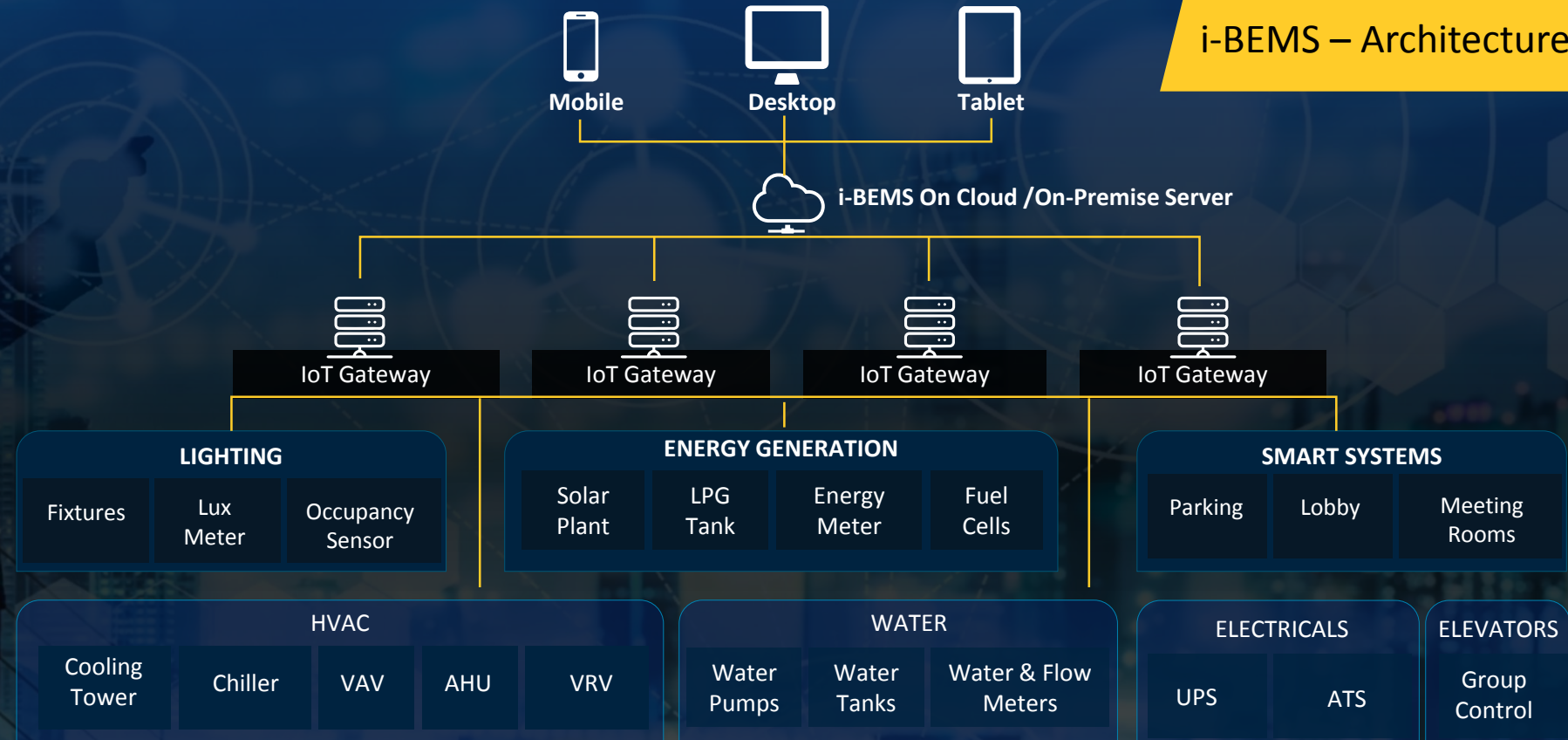
MARKET

- Smart Building Market Size : \$32Bn by 2021
- 1.4 Billion Sensor deployments by 2021 for Commercial Real Estate Buildings

OUR FOCUS

- Office Spaces
- Commercial Buildings
- Residential Buildings

i-BEMS – Architecture



Roadmap

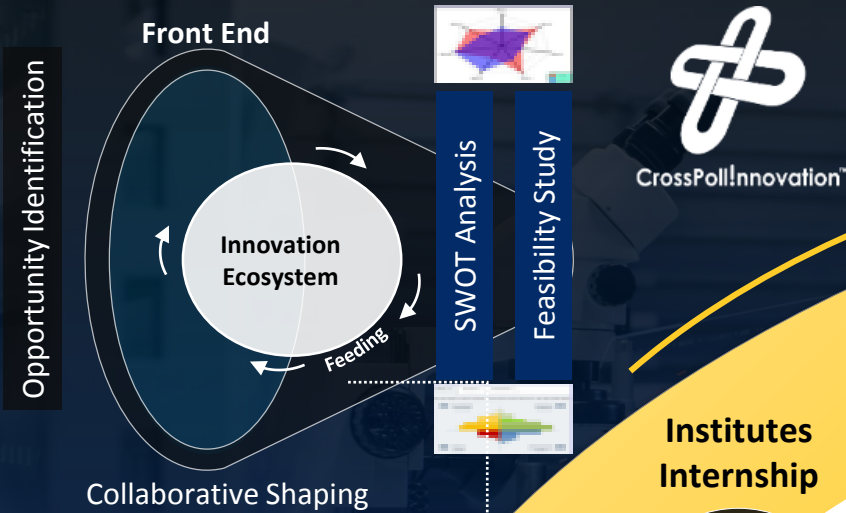
- Features to Enhance Quality of Life inside the building
- AI /ML based Enhanced Analytics

Technology Partners



....aided by Ideation through a Robust Innovation Engine

Ideation Process



Patents Filed



337

Patents filed*

*Patents filed include co-authored patents with customers



- TECHgium™
Engineering Innovators for Tomorrow
- TECH PANAROMA™
- TechExpression™ 17
- WIZneers™

We are gaining initial traction

IP Monetization Plan

Patent
Monetization
Opportunity
Exploration

Patent
Shortlisting

Potential Buyer
Identification &
Negotiation, Signing
& Closure

PHASE1

PHASE 2

PHASE 3

Sr. No.	PATENTS MONETIZATION IN PROGRESS
1	Hydraulic
2	Lamp and Flicker testing
3	Camera based CO2 estimation in building

SINGAPORE BASED
DATA CENTRE
MIDDLE EAST
TELECOM OPERATOR
AUSTRALIAN MAJOR
BANK

OIL & GAS MAJOR
AEROSPACE MRO

US OEM
INDIA DTH OPERATOR

US OFF-HIGHWAY OEM
Global Auto TIER 1 – ECU
Security