Smarter technology for all

Empowering Companies with sustainable AI Edge Computing Solutions

Lenovo brings AI to your Data

Oktober 24th, 2024
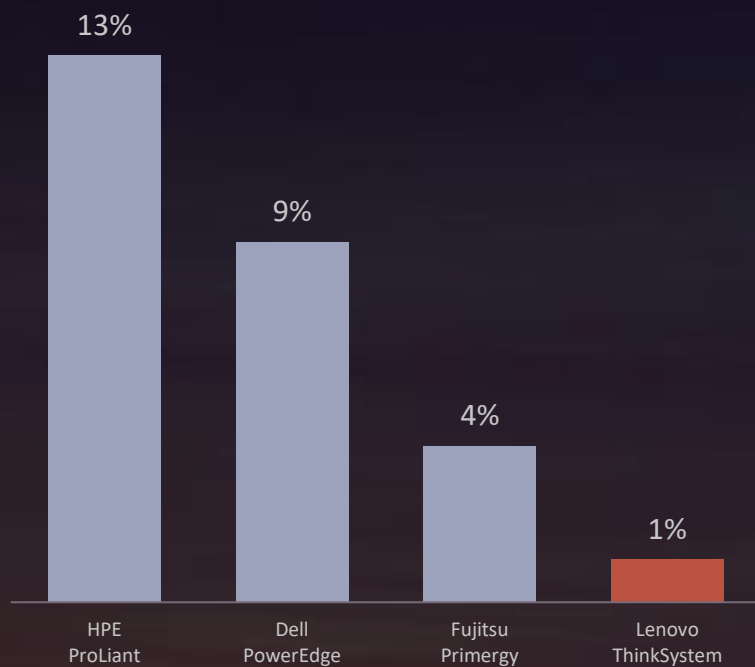
Christian Vinkel – ISG Sales Executive
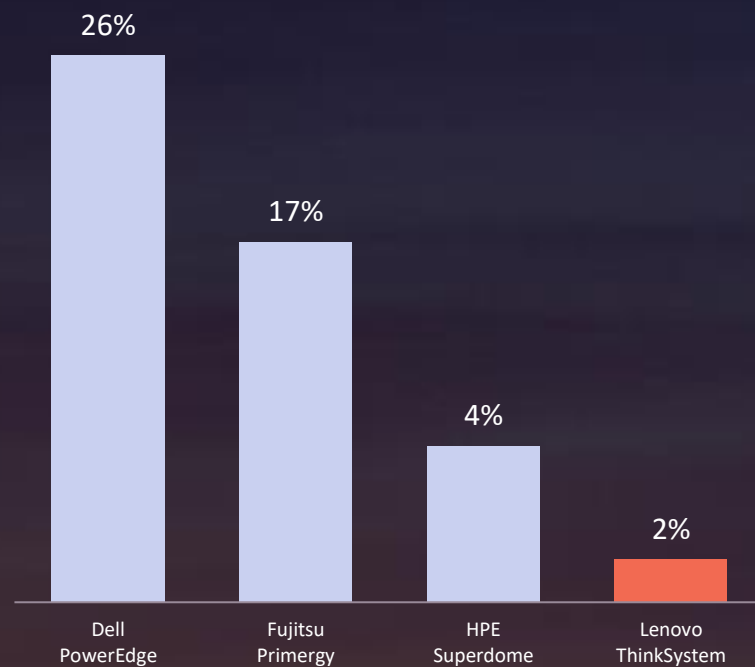
Global sourcing with local manufacturing & delivery

Silicon Valley
Chicago
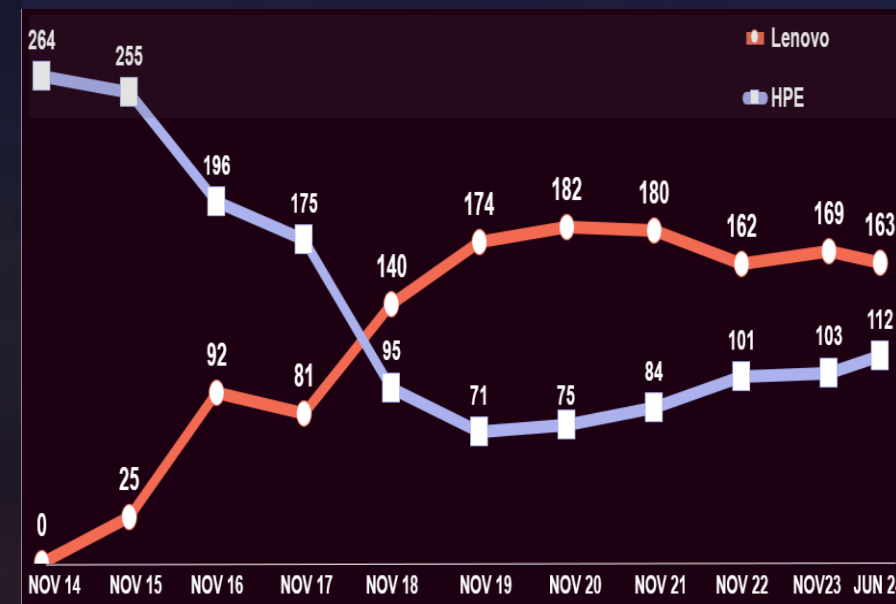Raleigh
Monterrey
Guadalajara
Whitsett
Manaus
Indaiatuba
Jaguariúna
Tierra del Fuego

Budapest
Bucharest
Frankfurt

Noida
Bengaluru
Puducherry
Chongqing
Dongguan
Huizhou
Hong Kong

Beijing
Wuhan
Chengdu

Tianjin
Hefei
Kunshan
Shanghai
Yonezawa
Shimane
Yokohama
Jiaxing
Taipei

Shenzhen

🔴 Research center

🟣 Manufacturing

⬡ Company location

Lenovo

ISG Server Leadership

Unplanned Downtime > 4 Hours

- HPE ProLiant: 13%
- Dell PowerEdge: 9%
- Fujitsu Primergy: 4%
- Lenovo ThinkSystem: 1%

Lowest Downtime % from Security Attacks

- Dell PowerEdge: 26%
- Fujitsu Primergy: 17%
- HPE Superdome: 4%
- Lenovo ThinkSystem: 2%

590
Current World Record Workloads

>6x as many #1 Results

Lenovo / HPE

	NOV 14	NOV 15	NOV 16	NOV 17	NOV 18	NOV 19	NOV 20	NOV 21	NOV 22	NOV23	JUN 24
HPE	264	255	196	175	95	71	75	84	101	103	112
Lenovo	0	25	92	81	140	174	182	180	162	169	163

#1
x86 Server Reliability for 10 Consecutive Years

#1
x86 Security for 5 Consecutive Years

#1
Current World Record Performance Workloads

#1
Top 500 Supercomputers for 6 Consecutive Years

Source: ITIC (Mar 2024), Benchmark Report (September 2024) & Top500.org (June 2024)

Lenovo

30 years of Server innovation

A history dedicated to continuous increases on performance, agility, and reliability

1992

1st x86 Server
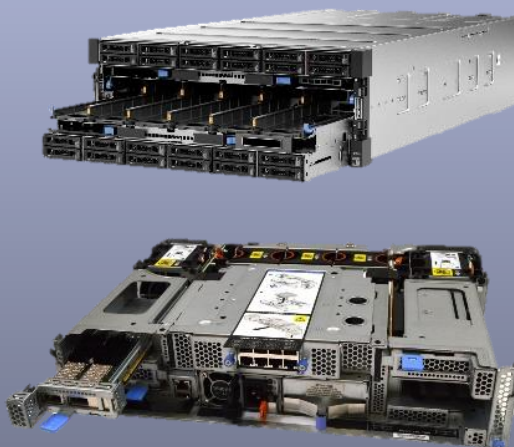IBM PC Server

1999

1st 1U Tier 1
Rack Server
1st Light Path Diagnostics

2002

1st Scalable 16-socket X86 server

2005

1st high availability hot-swap memory

2007

1st to decouple memory from processor

2010

1st x86 server to break 1M tpmC

2019

IoT Edge Server

2018

Thermal Transfer Module

2017

Front/Rear access to all server components

Flexible I/O

2017

1st Mission-critical 8 way server in 4u form factor

2014

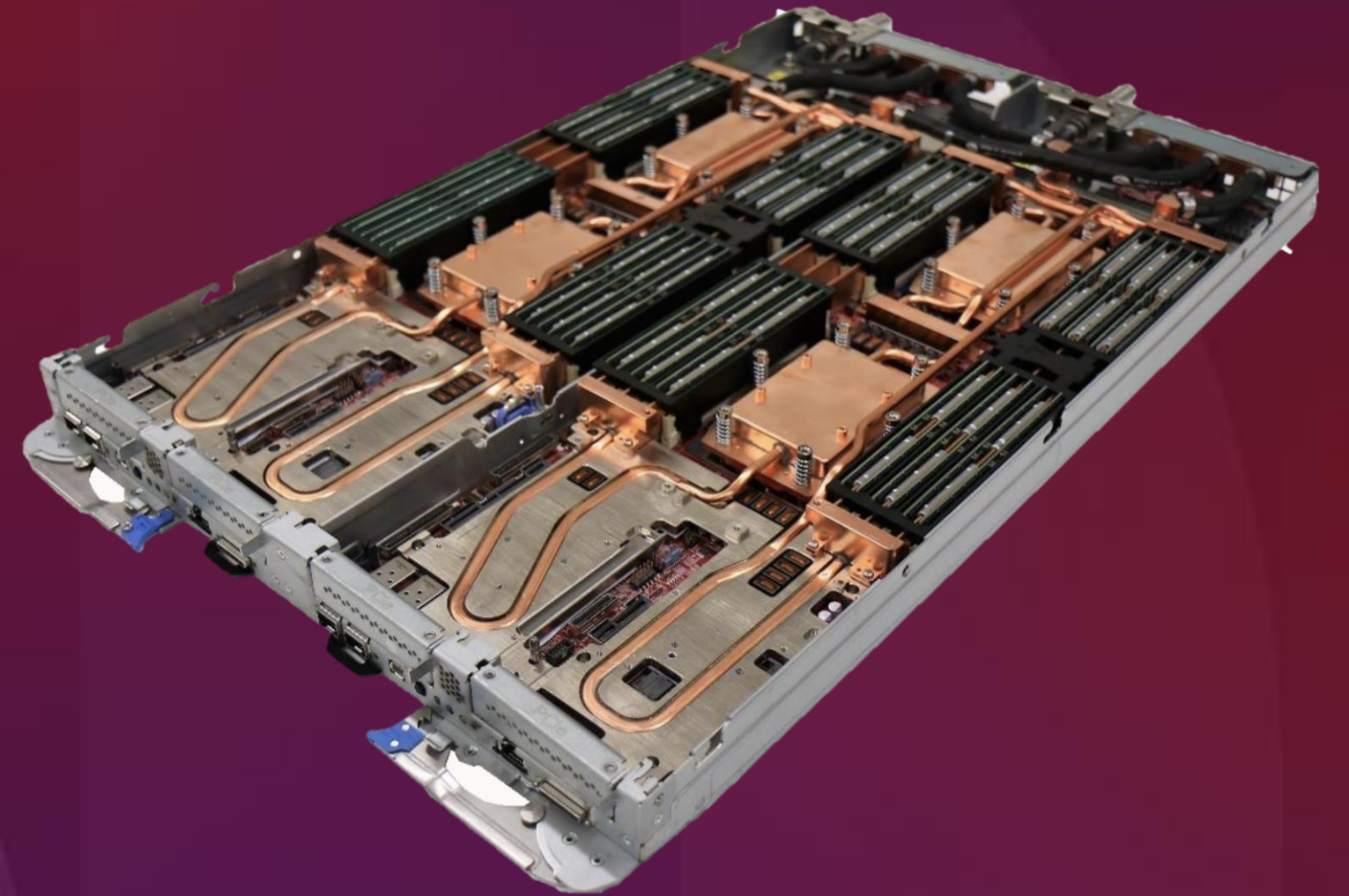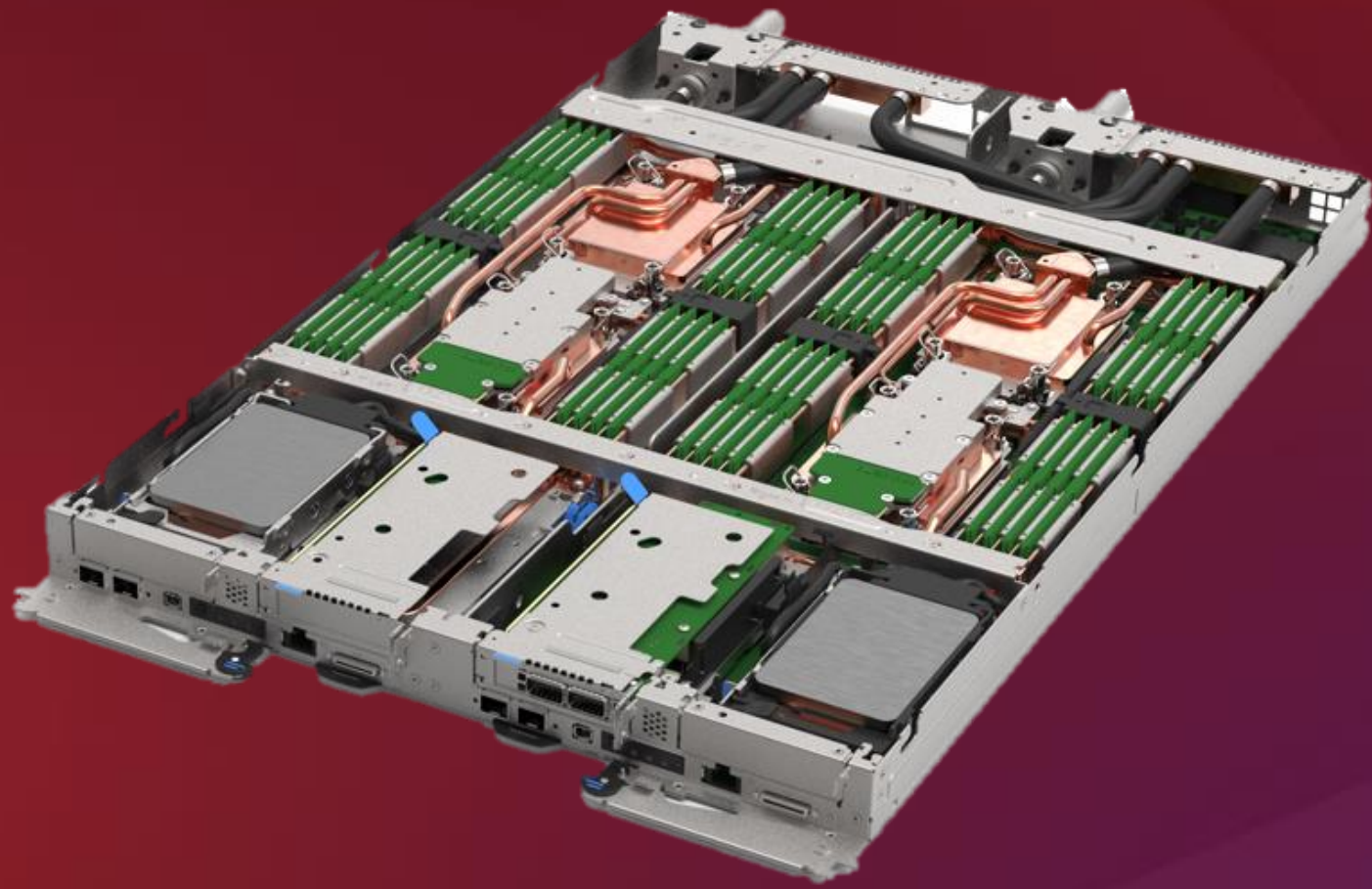1st integrated memory channel flash storage

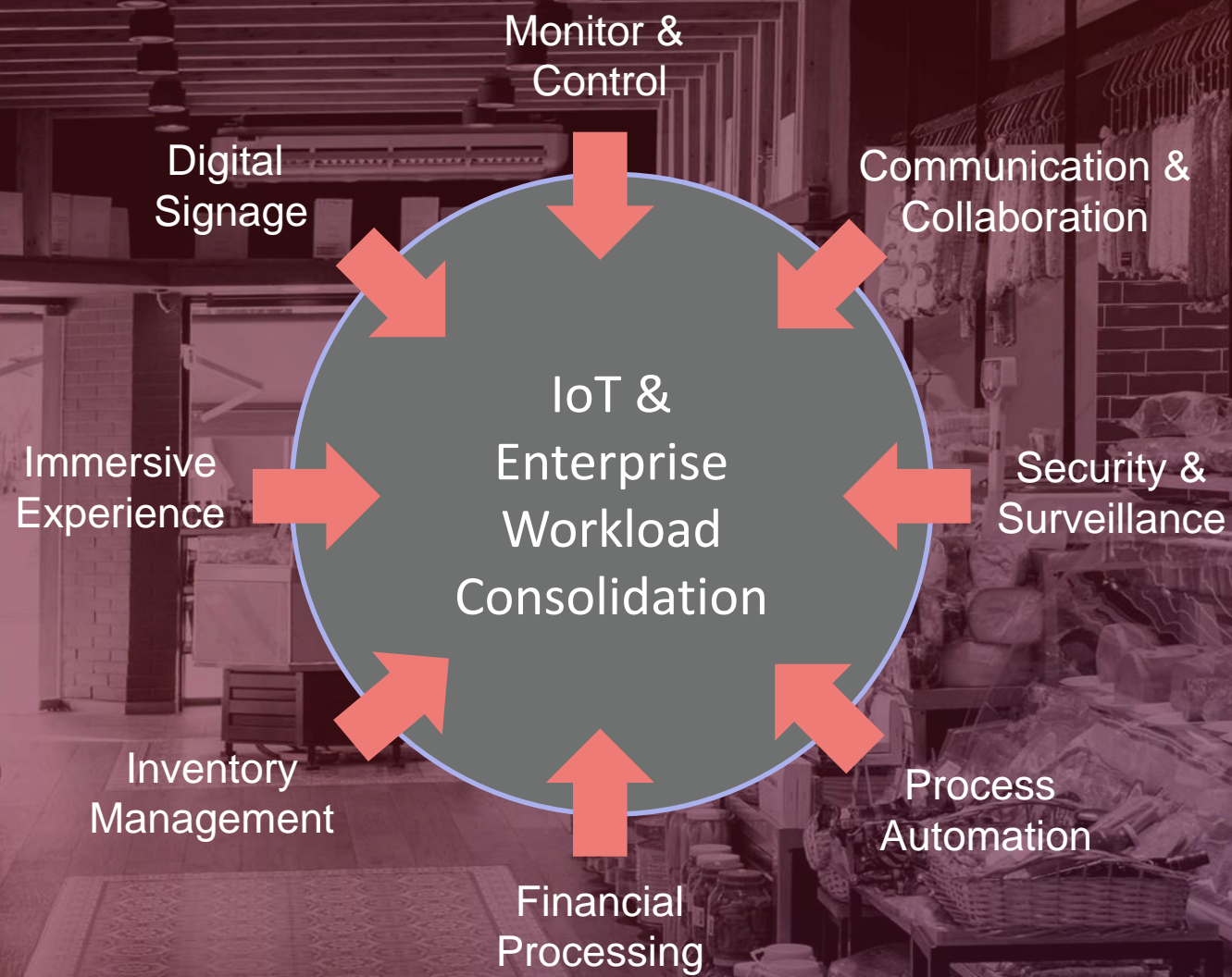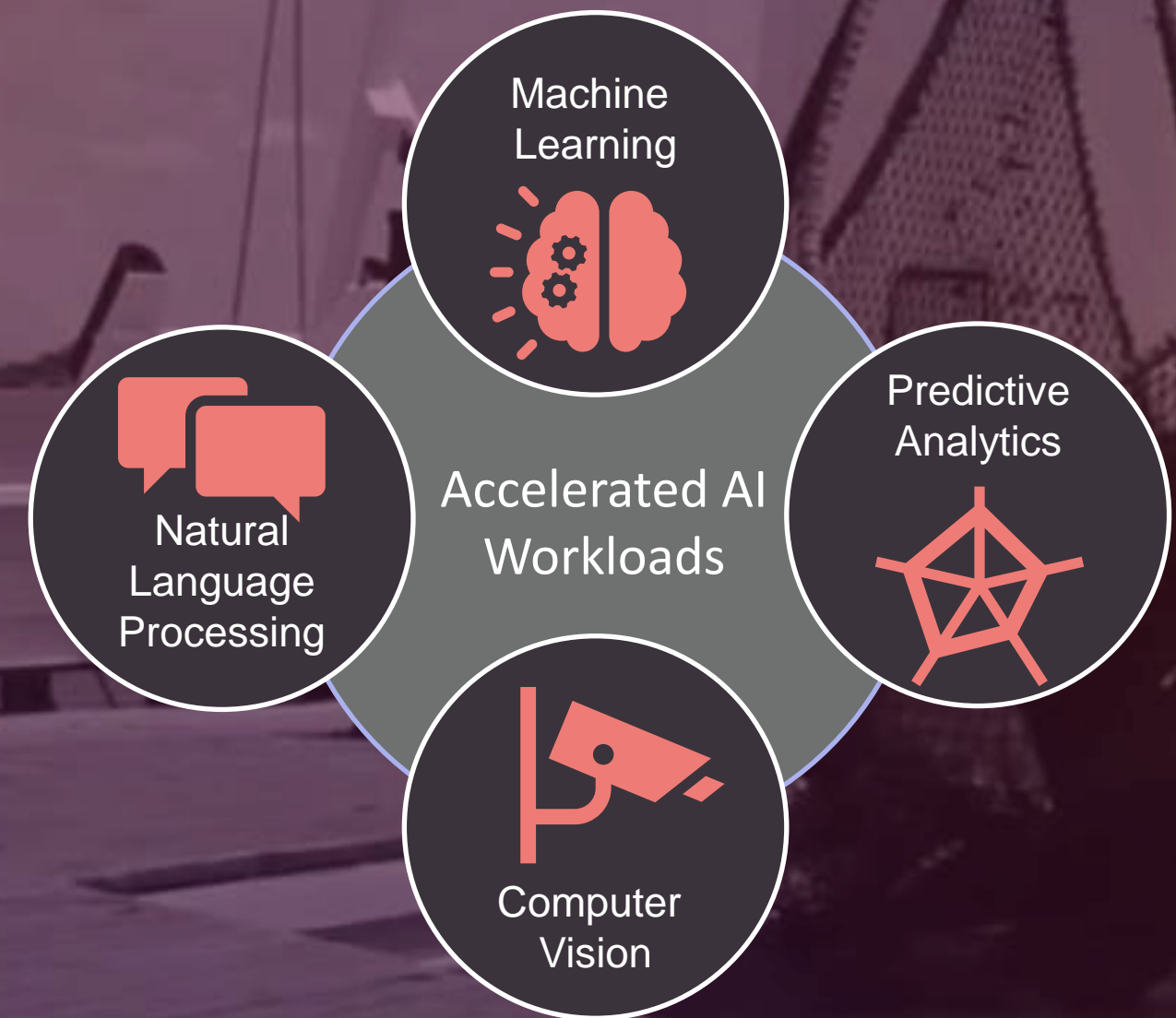1st 45 °C operating servers

2012

1st warm water cooling technology

Lenovo

Trends @ The Edge

Consolidation
multiple devices, extending Cloud at the edge

Monitor & Control

Digital Signage

Communication & Collaboration

Immersive Experience

IoT & Enterprise Workload Consolidation

Security & Surveillance

Inventory Management

Process Automation

Financial Processing

Acceleration
augmenting performance with AI

Machine Learning

Predictive Analytics

Natural Language Processing

Accelerated AI Workloads

Computer Vision

Lenovo

The Edge has unique requirements

Environmental
- ✓ Wide temperature
- ✓ Shock & vibe
- ✓ Dust filtering & fan-less
- ✓ Low acoustic

Security
- ✓ Encrypted data
- ✓ On-site authentication
- ✓ Movement & tamper detection
- ✓ Physical Security

Flexibility
- ✓ Mounting options (VES, Rackmount, Standalone)
- ✓ Networking options
- ✓ Diverse workloads
- ✓ Multiple protocols

Management
- ✓ Single tool for DC & edge
- ✓ Automate deployment
- ✓ Lifecycle Management

Sustainability
- ✓ Power savings (telemetry / cooling)
- ✓ Recycled composite material
- ✓ Packaging and refurbish

From Far Edge to Core

Edge Client

SE10	**M90n-1**	**SE30**	**SE50**	**SE70**
intel CORE i7	intel CORE i7	intel CORE i7	intel CORE i7	NVIDIA
-20C to +60C Intel ATOM Up to 32 GB RAM	0ºC to +50ºC Intel Celeron, i3 Up to 8GB RAM	-20ºC to +60ºC Core™ i3, i5 Up to 16GB RAM	0ºC to +50ºC Core™ i3, i5, i7 Up to 32GB RAM	-20ºC to 60ºC NVIDIA Jetson Up to 16GB RAM

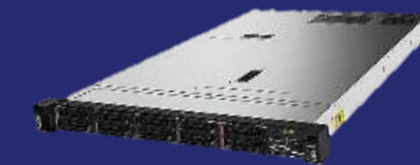## Edge Server

SE350	**SE350V2**	**SE360V2**	**SE450**	**SE455 V3**
intel XEON	intel XEON	intel XEON	intel XEON	EPYC
0ºC to 55ºC Xeon® D-2100 Up to 256GB RAM	0ºC to 55ºC Xeon® D-2700 Up to 256GB RAM	-20ºC to 65ºC Xeon® D-2700 Up to 256GB RAM	-5ºC to 55ºC Xeon® SP 3rd Gen Up to 1TB RAM	-5ºC to 55ºC AMD Genoa Up to 512GB RAM

Datacenter

SR630, SR645
intel XEON   EPYC
0ºC to 35ºC

Gateways | **Base Station / DC Closet** | **Data Center**

Diverse Portfolio
From ultra compact gateways to data center grade products.

Highest Performance
CPU & GPU rich systems for ultimate performance.

Flexible Deployment
In harsh environments with ruggedized devices & unique cooling capabilities.

Lenovo

AiFi
Aifi Refresh
Aifi Build
Aifi To-Go

ADD-FOR Sybille Automotive

alwaysAI
alwaysAI Smart Retail
alwaysAI Smart Construction
alwaysAI Smart Manufacturing
alwaysAI Smart Venues

ARTISIGHT
Patient Room of the future
Operating room of the future
Clinic of the future
Command Center of the future
Assistied Living Facility of the future

Aupera Making Value Visible
Aupera VMSS for Retail
Aupera VMSS for Smart Cities
Aupera VMSS for Manufacturing

ASCENDION Ai Services

BIKAL
Bikal AI Platform
Bikal AI Security
Bikal AI Services

byte LAKE
CFD Suit
Cognitive Services Suit (Manufacturing)
Cognitive Services Suit (Automotive)
Cognitive Services Suit (QSR)

C2RO
C2RO Entera for Manufacturing
C2RO Entera for Retail / Mall
C2RO Entera for Smart City

chooch
Chooch AI Vision Platform
Chooch Image Chat

corsight
Corsight Fortify
Corsight RESTful API

cnvrg.io cnvrg.io platform

deci. Deci AutoNAC

Dataloop
Dataloop Data Management Platform
Dataloop LiDAR
Dataloop Automation Platform

EAIGLE
EAIGLE Automated Vehicle Access Control (AVAC)
EAIGLE Access Control Solution for Visitors
EAIGLE Density Analytics
EAIGLE Thermography Monitoring Solution

everseen
Evercheck Visual AI Platform
Everdoor Visual AI Platform
Evershelf Visual AI Platform

Fingermark
Supersonic
Eyecue
Digital Menu Boards

FedML
FedML AI App Ecosystem
FedML Open source
FedML Octopus
FedML Parrot
FedML Beehive
FedML Spider
FedML Cheetah

HU/EX
Automated Intelligent Drive-Thru Assistant (AIDA)
Analytics Dashboard
Conversational AI Core Engine

nybl.

GRAYMATICS
LabVista
UrbanVision
siteInsights
Vista Mart
Vista Karma
G-Safe

DEEPBRAIN AI
AI Human
AI Studio
AI Interview
AI Avatar

Infinia ML.
Infinia ML Document Processing

InstaDeep™
DeepChain
DeepPack
DeepPCB

kinetic vision
Industrial Metaverse
Retail Metaverse

IBM maximo
IBM Maximo Asset Management
IBM Maximo Predictive Maintenance
IBM Maximo Remote Monitoring
IBM Maximo Visual Inspection

NEARBY COMPUTING
NearbyOne AI Platform

NR NEUREALITY
NR1 NAPU
NR1 M
NR1 S

pathr.ai™
Pathr.ai Spatial Intelligence Solution

TRIFORK.

SAS
SAS Viya
SAS Anti Money Laundering
SAS Fraud Detection
SAS Customer Intelligence 360
SAS Econometrics
SAS Visual Forecasting

Signatrix
Signatrix Instore Analytics
Signatrix Loss Prevention

SMARTIA
Smartia MAIO
Smartia Energy
Smartia Predictive
Smartia Services

space
Deming ROVR
Deming RANGR
Deming OVSERVR
HoverTouch Platform

StorMagic StorMagic SvSAN

Lenovo AI Innovators
Partner Ecosystem

>50 AI Software Providers

>30k Channel partners

>165 Enterprise AI Solutions

180 Countries served

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wanDISCO Activate Your Data
Data Activation Platform
Edge to Cloud
Data Migrator

vmware®
Vsphere
Aria UI

V7 V7 Labs Labellig Platform

VSAAS
Video Surveillance as a Service AI Platform

trigo
StoreOS
EasyOut
EasyStock

SUNLIGHT
Sunlight HyperConverged Edge
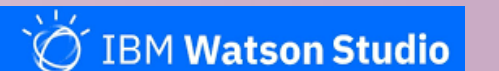Sunlight NexCenter
Sunlight NexVisor

Watad
Robotics Process Automation
Computer Vision
Supervisory Control and Data Acquisition System (SCADA)
Power Substation Automation (PSA)

WaitTime™
WaitTime AI Platform

VSBLTY
DataCaptor
VisionCaptor
VSBLTY Vector
Retail Hardware Solutions

VOCALYTICS AI
Machine Listening Software

VISTRY
Vistry AI Drivethru
Vistry AI Kitchen
Vistry AI Platform

THE EDGE COMPANY
BCMS Ventur
BCMS Ventur X

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intel **NVIDIA** **AMD** **Qualcomm** **vmware®** **Red Hat** **Azure Stack** **IBM Watson Studio**

A new wave of AI innovation drives competitive advantage for businesses across many vertical markets.

Lenovo

Manufacturing
- Predictive Maintenance **reducing downtime by up to 40%**
- Quality Control / Visual Inspection
- Production line, robotics & process optimization, digital twins

Retail
- Boost retail productivity by as much as **+59%** by 2035.
- Check-out automation / loss prevention
- Shopping recommendation / Customer Engagement

Finance
- Automobile lending companies in the U.S. bringing AI on board cut losses by 23% annually
- Fraud Detection & Threat Intelligence
- Personalized banking/customer service

Healthcare
- By 2025, 90% of hospitals will adopt AI-driven technology for remote patient monitoring and early diagnostics.
- Medical Imaging/diagnosis treatment
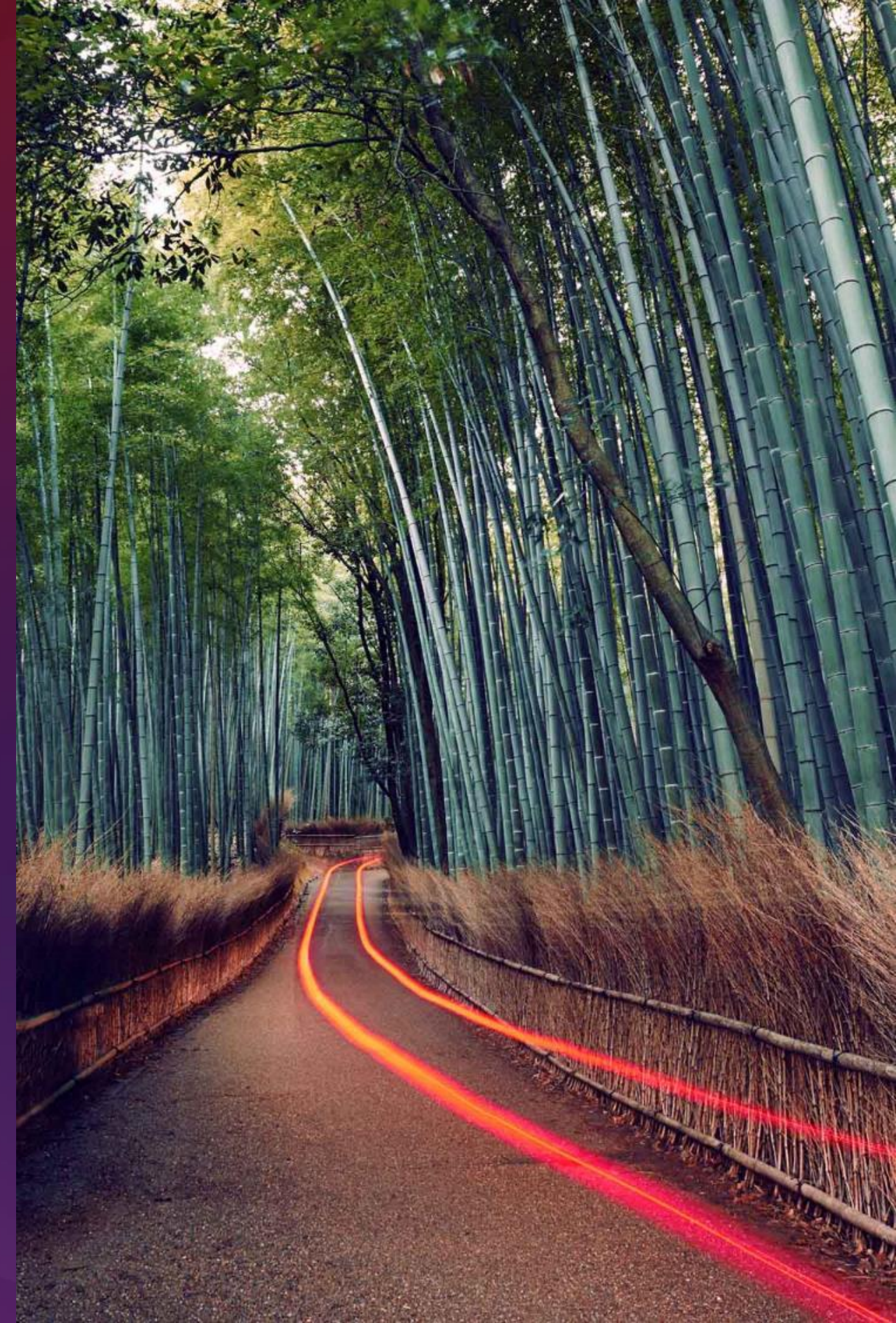- Clinical Decision Support (CDS)

Smart Cities
- Crowd Management, Parking systems
- Security and Access Management
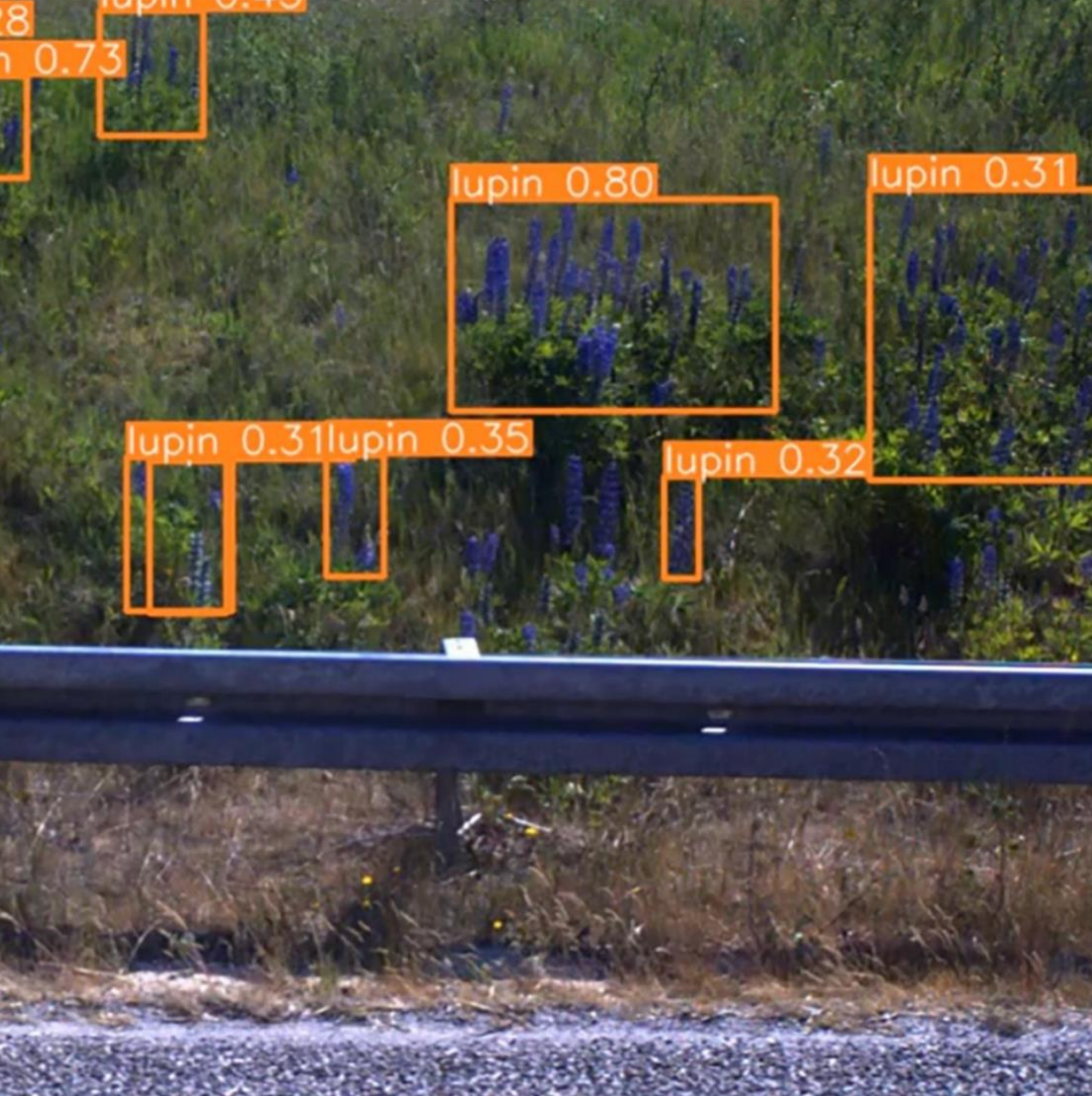- Public Safety, Traffic Management

ThinkEdge
Use Cases

Protecting biodiversity by monitoring the spread of invasive species

With Lenovo ThinkEdge SE70, powered by NVIDIA Jetson platform, Trifork developed an AI application to identify invasive plant species, enabling the Nordic Road Directorate to take measures to protect native ecosystems.

Lenovo   **TRIFORK.**

In collaboration with   **NVIDIA.**

Lenovo TRIFORK.

"AI offered exciting possibilities for analyzing the spread of invasive plants. To build the solution, we needed a robust, powerful infrastructure that NordFoU teams could use while on the road."

TRIFORK.

A Danish Road Directorate service vehicle with the Trifork solution mounted on the back.

thanks.

Smarter
technology
for all

Lenovo