







# SECURING CONNECTED TRANSPORTATION











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## TRANSFORMING TRANSPORTATION

## **AVIONICS**

- Software Defined & Cloud Connected Cockpit Systems
- Al Driven Predictive Maintenance
- Al Enabled Co-Pilot Function
- Enhanced Passenger Experience with IFEC Systems
- Next-Gen Avionics Suites and Software-defined Cockpits

## **RAILWAYS**

- Increasing digitalization of rail systems
- Expansion of high-speed rail networks
- Evolution to ERTMS L 3
- Predictive Maintenance
- Passenger Experience –
   Apps, Infotainment,
   Ticketing

## **MARINE**

- Increased adoption of LEO Satellites
- Al powered route optimization
- Al driven Predictive maintenance
- Autonomous Vessels
- Smart port operation
- Maritime robotics for cargo management, ship maintenance and port operations

- OFF ROAD
- Connected & Autonomous Machinery
- Equipment as a Service driving Increasing integration of IoT and automation in industrial vehicles
- AI & Predictive Analytics
- OTA updates and Albased Predictive
   Maintenance



Connectivity at Scale

Reduction in unplanned maintenance events

Reduction in unplanned Outages

Al Everywhere

**20% ₹70%** 

Reduction in Repair Costs

Reduced breakdown in mining operations

**Digital First Operations** 

1 Deloitte, 2024 2 McKinsey 3 Maritime Ships 4 Mining Doc



## **GROWING ATTACK NUMBERS!**

**₹ 500%** 

SURGE IN GPS SPOOFING & JAMMING



INCREASE IN CYBER ATTACKS (5Y), MOSTLY RANSOMWARE



OF US S-S CRANES FITTED
UNAUTHORIZED COMM DEVICES

**1000** 

CIVILIAN FLIGHTS EXPERIENCED
NAV SYSTEM DISRUPTIONS



3x



Transportation

11%

1 EASA 2 Secureworld.io 3 Homeland Security 4 TechHQ 5 MM-ISAC 6 ENISA



# WHAT MAKES TRANSPORTATION CYBERSECURITY UNIQUE?

RAIL SYSTEMS 30+ yrs Long Lifecycle 30-35 YEARS OPERATIONAL WITH LEGACY COMPONENTS **AIRCRAFT** 25-30 YEARS SERVICE WITH LIMITED SECURITY-BY-DESIGN Fail Safe **Safety Criticality** FAIL SAFE PRIORITIZE HUMAN SAFETY ABOVE ALL CONNECTIVITY Limited **Remote Operations CONNECTIVITY LIMITATION Patching REGULATIONS** PATCHY AND WEAK CONNECTIVITY

## SECURITY MUST BE BUILT THROUGH THE LIFECYCLE



62443 CENELAC 27400:2022 156 WP.26 24089 27403.6 262625891 22417:2017 62304 30141:2018 303 452645 IEC UNR645 511221434 UL UNR 2900PAS UL2900-2-3 2740260601-4-5 2740230149 303 27404 27400

#### **REQUIREMENT**

Legal/ Regulatory requirements
Product Security requirement specification
Product cyber risk profile

#### **ARCHITECTURE & DESIGN**

Threat Modeling Risk Assessment Secure Design Principle Security of 3<sup>rd</sup> Party Component

> Secure Coding Integration of Security Control Vulnerability Remediation

**DEVELOPMENT** 

#### **OPERATIONS & MAINTENANCE**

Security monitoring and incident response Zero Day Vulnerability response Patch Release Program Remote/ OTA Updates

**M** 

#### SECURE PRODUCTION

Software Bill of Material (SBOM) Compliance & Certification Root of Trust Enablement Key management & secure flashing

#### **TESTING & VALIDATION**

Static & Dynamic Security Testing Device Firmware Security Testing Interface Security Testing Vulnerability Assessment Offensive & Defensive Testing



## SASKEN AT A GLANCE



















Semiconductor

Communication & Devices

Automotive

Transportation

SatCom

Industrials

Enterprise **Grade Devices** 



in Product Engineering & Digital Services



70+ Patents (Granted)



1B+ **Products Shipped with** Sasken IP & Services



2000+ Specialists Worldwide

## Centres of Excellence









**FINLAND** 

JAPAN

CHINA



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# Select Products Enabled by Sasken





High-Speed Rail Track Condition Monitoring Platform



Telematics for Construction Vehicles



Cockpit for Smart Heavy Machinery



**OEM Unified IoT Platform** 







Satellite Terminal



Android IFE system



IoT Platform for Fleet Management



Edge Analytics Machine Vision



High Speed Laser Welding



**Precision Fastening Tool** 



**Production Tester** 

World's first highspeed satellite broadband device For critical communication, powered by Sasken

# Redefining Communication

Sasken extends its appreciation to Lockheed Martin and NTT DOCOMO for the privilege of being chosen to pioneer the world's first series of LTE-based Satellite Terminals. These terminals are revolutionizing dependable broadband satellite connectivity and setting a groundbreaking standard. döcomo

#### Brilliance in engineering, honoring the minds:

Aji Sathyavrathan, Aki Myllymäki, Alakh, Ambarish Mishra, Amit Gandhi, Anand Sharma, Angelica Jansson, Apoorva H, Ari Tastula, Arto Lahti, Arunkumar N, Aswin Mohan, Atul, Avanish Kumar, Balaji Narayanan, Bhajendra H V, Biju Philipose, Binod Mohanty, Biswajit Mohanty, Bithu Goswami, Chethan Kumar B R, Daruk Prasad Sheelimath, Deepak Reddy, Diganta Bhattacharjee, Dinesh S. L, Dinesh Singh, Dinesh Yadhav, Eshwara Naik, Galla Poornima, Gurunath Malagi, Harikrishna A, Iqbal Shareef, Ismo Koivisto, Jaakko Järvelä, Jacob John, Jani Turpeinen, Janne Laakso, Janne Paavola, Jari Kaskelin, Jayalakshmi N, Juha Korpela, Kaji, Kamatchi Pandian Maniram, Kantesh Kumar Gaurav, Kari Lahti, Karim Khan Pathan, Karthikeyan Ponnusamy, Kavitha Ayyapusetty, Kavya Suresh Gouda, Kishore Lenka, Komal Vanjare, Krishna Pasad, Kurakula Gopala Rao, Lakshmi Suvama Konda, Lasse Hänninen, Lourdu Xavier, Manas Ranjan Baliarsingh, Manish Dhanake, Manoj Korapati, Marko Heitto, Marko Timonen, Mikko Keskilammi, Mohamed Rizwanul Islam, Mohammad Faris Qureshi, Nadeem Athani, Narendrababu S N, Naresh Kumar, Nethravathy A N, Nikhila Potabattula, Nilofar Chanda, Nirmal, Pasi Niemi, Pragati, Pranav Lavate, Prasun Datta, Praveen Dusethy, Praveen Sinha, Preeti Melligeri, Puneeth Vittaldas Kini, Putta Prasad, Raghavendra, Ragini G R, Rahul Gupta, Rajdeep Sarkar, Rajesh Sen, Rajeshwari Kumbar, Ranjith Kandasamy, Raunaq Sinha, Rishab Gupta, Risto Siponkoski, Roopa G, Roopa Jairamachary, Rudresh, Ruhee Singh, Rupesh, S Srikrishna, Sadeesh Kumar, Sami Vähähyyppä, Samuel Kaariniemi, Sanjay Kumar Gupta, Saurabh Singh, Seppo Onatsu, Sharanasunil Lekkad, Sharon Mathew, Shiva Bhargav Yalagonda, Shreyas Deshpande, Shrikanha, Sumath B Holla, Shweta Jain, Siddiqa M Mulla, Sivabalaa Jothibose, Soujanya Kalal, Soumalya De, Sowmya Surendra, Sruthi Unnikrishnan, Subhas Kamble, Sudha Kini, Sukrut Bellary, Sumanth K, Sunil, Surbhi Tanwar, Swadesh Ranjan, Swapnil Patil, Thomas, Timo Ruostetsaari, Tommi Palosaari, Tuomas Kentala, Umamaheswara Reddy Kurukuru, Vadivel Murugan, Ve

