# Digital Cockpit and Display

## Transforming in-vehicle experiences for drivers and passengers.

The automotive industry is undergoing a digital revolution, with a focus on driver experience and connected car technologies. Digital cockpits, featuring integrated displays and information systems, are at the forefront of this transformation. Advancements in display technology, processing power, and user interfaces are creating highly customizable and interactive in-vehicle experiences. Current trends highlight the rise of larger, higher-resolution screens, head-up displays, and seamless integration of infotainment, navigation, and driver assistance systems.

# How Acsia Can Help?

## Human-Machine Interface (HMI) Development

Intuitive user interface (UI) and user experience (UX) development that prioritizes driver safety and minimizes distraction.

## Software Development

For display screens (information, entertainment, navigation) and connected car features like ADAS (advanced driver assistance system).

### Middleware

Media, Audio, Connectivity, Graphics

### OS & SW Platforms

Linux, Android, QNX, AUTOSAR, Adaptive AUTOSAR

### RTOS

Zephyr, ThreadX, OSEK

### Virtualization

QNX, Coqos, KVM, Xen

### HW Platforms

Renesas, Infineon, NXP, Microchip, Cypress, TI, NVIDIA, and Qualcomm

## Software Integration

CI/CD pipelines for seamless integration for code quality checks and automated testing.

## System Engineering

Robust requirements management, software architecture, and system integration for digital cockpits.

## Performance Analysis & Optimization

Leverage OS expertise and custom tools to analyze the system. Improve system performance and meet critical KPIs.

## Connectivity Solutions

Ensure secure and reliable data exchange between the digital cockpit and external systems such as telematics, cloud, and V2X.

## Verification & Validation

Expertise in establishing test infrastructure, undertaking software to vehicle level testing, test automation, and SIL/MIL/HIL simulation and testing.

## Cybersecurity Solutions

Develop robust security design, implement software requirements and undertake testing to protect connected cockpits from cyber threats.

## Automotive-grade Process Compliance

Ensure adherence to industry standards in automotive software development and testing.

### Develop Functional Safety (FuSa) designs and work products adhering to ISO 26262

### Create packages for digital cockpits adhering to Automotive SPICE® OML 3

## NIBIL P M
**AVP & Head, Advanced Technology Group**
With Acsia since 2015

"The automotive industry's shift to Software-Defined Vehicles (SDVs), is accelerating the efforts towards ECU consolidation. Acsia brings proven expertise in automotive IVI, ECU consolidation, digital cluster, UI/UX design & development, and verification & validation. Our strong track record with leading IVI suppliers and active involvement in next-gen IVI head unit and cluster production programs uniquely position us to meet OEM and Tier-I requirements."

## OEM Production Program Experience

BMW | Mercedes | VOLVO | gm | TATA | Mahindra

## Tier-I Experience

Panasonic | APTIV | GARMIN

# Why Acsia?

### Deep Domain Expertise
In-depth understanding of the automotive industry and its specific needs, regulations, and safety standards.

### Cutting-Edge Technology Stack
Mastery of relevant technologies like high-performance graphics engines, automotive-grade Android, QNX and Linux, and HMI development tools like KANZI, and QT/QML.

### AUTOSAR®, V2X, FuSa, Cybersecurity Expertise
A decade of experience in automotive industry-specific software architecture, platforms, protocols, and best practices.

### Seamless Integration with ADAS Systems
Proven ability to integrate software with advanced driver-assistance systems (ADAS) for a comprehensive safety and driver experience package.

### User-Centered Design (UCD) Approach
A laser focus on user experience (UX) with a proven UCD methodology to create intuitive, safe, and visually appealing digital cockpits.

### Agile Development & Global Delivery
Utilizing agile methodologies to ensure project flexibility and responsiveness, coupled with a global delivery model for cost-efficiency and access to a wider talent pool.

### Boutique Mindset
Small enough to be nimble yet scalable to address large project requirements quickly.

# What's In It For You

### Accelerated Time-to-Market
Leverage Acsia's expertise and pre-developed software components to accelerate development cycles and get your innovative digital cockpits to market quicker.

### Reduced Development Costs
Benefit from Acsia's agile development processes, and global talent pool leading to cost savings compared to in-house development.

### Enhanced User Experience (UX) & Differentiation
Acsia's focus on user-centric design and cutting-edge interfaces helps brands create intuitive and personalized digital cockpits, setting them apart from their competitors.

### Future-proofed Tech Stack
Stay ahead of the curve with Acsia's commitment to technologies like AUTOSAR and secure V2X communication, ensuring your digital cockpits are scalable and adaptable.

### Safety, Security & Compliance Expertise
Acsia prioritizes safety-critical software development processes and adheres to industry standards, ensuring reliable, compliant, and secure in-vehicle experiences.

### Reduced Development Risks & Improved Quality
By partnering with Acsia, OEMs and Tier-I suppliers leverage their experience in managing complex software projects, minimizing development risks and delivering high-quality digital cockpits.

### Scalability and Flexibility
As your digital cockpit requirements evolve, Acsia can scale its solutions to meet your growing demands. Their agile development methodologies, global delivery capabilities, and experience with various automotive projects allow them to adapt to your specific requirements and integrate seamlessly with existing systems.

### Focus on Core Competencies
Acsia's experience in managing complex software development projects translates to a smoother workflow for your team. They can handle tasks like software development, integration and testing, freeing your internal resources to focus on core automotive engineering.

## About Acsia Technologies

Acsia is a global leader in automotive software powering Digital Cockpits & Displays, e-Mobility, and Telematics. We use our expertise to develop tools and platforms that simplify complex problems and create safer, sustainable, and more compelling driver and passenger experiences. With a presence across the United States, Germany, Sweden, Japan, and India, we collaborate with top car makers and Tier-1 suppliers.

ISO 9001  ISO 27001  AUTOMOTIVE SPICE®  TISAX®

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