deepen

Calibrate | Annotate | Validate

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Unifying the Calibration Lifecycle

The Problem

Fragmentation

Calibration scattered across OEMs, suppliers, and service centers with no unified approach.

No Standards

Lack of unified standard for measuring or validating calibration quality across the industry.

Limited Visibility

Poor insight into calibration health throughout vehicle lifecycle.

Inconsistent

Varying measurements across modalities: LiDAR, Camera, Radar, and IMU.

Shared vision

A unified calibration framework for all use cases

1

Standardized Process

Seamless flow from R&D through Manufacturing to Field Service.

2

Cross-Modality Support

2D, 3D, and Fusion capabilities with automated validation.

3

Edge & Cloud Ready

Flexible deployment for in-factory and in-field recalibration.

4

Safety Compliance

Built-in structured data logging and full traceability.

Goal

Establish industry-wide calibration standards to ensure safety and consistency for ADAS & AV systems

- Develop a **common data and metric standard** for calibration validation.
- Promote **interoperable tooling and interfaces** across the industry.
- Enable **safe and repeatable calibration** processes that can scale with ADAS & AV deployment.

Proposed Path

Stage	Focus Area	Objective
Phase 1: Foundational Alignment	Define and harmonize accuracy metrics (angular, translational, re-projection)	Establish baseline KPIs applicable across sensors and workflows
Phase 2: Contextual Calibration	Incorporate ODD-specific definitions and requirements	Enable consistent calibration standards by environment and use case
Phase 3: Lifecycle Integration	Link calibration data from R&D to service	Ensure traceability and continuous verification throughout vehicle operation

Let's collaborate to define the future of safe, standardized calibration.

Full lifecycle coverage

Deepen Calibrate© is helping organizations reimagine ADAS and AV sensor experience in every stage of the calibration journey

R&D And Validation

Calibration testing

Easy, speedens up iteration, supports many types

- ❏ Fish-eye camera
- ❏ Mono camera
- ❏ 360 degree camera
- ❏ LiDAR
- ❏ Radar
- ❏ GPS
- ❏ IMU

Production

End-of-line factory calibration

Deepens expertise help automate calibrations of multiple types in a few minutes

- ❏ Fully automated
- ❏ Fast
- ❏ High accuracy

- Camera-Vehicle
- LiDAR-Vehicle
- Camera-LiDAR
- Non-overlapping camera
- Stereo-Camera
- LiDAR-LiDAR

...And more

Post Production

Service centre re-calibration

Re-calibration of B2C ADAS systems

- ❏ Quick
- ❏ Scalable
- ❏ Flexible
- ❏ Low-cost
- ❏ Up to date all the time with constant software releases

Online

Real-time auto-calibration

Customized calibration algorithm for degradation detection and auto-correction

- ❏ Bespoke algorithm for your hardware & KPIs
- ❏ Seamless integration with your Safety System

Thank you

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