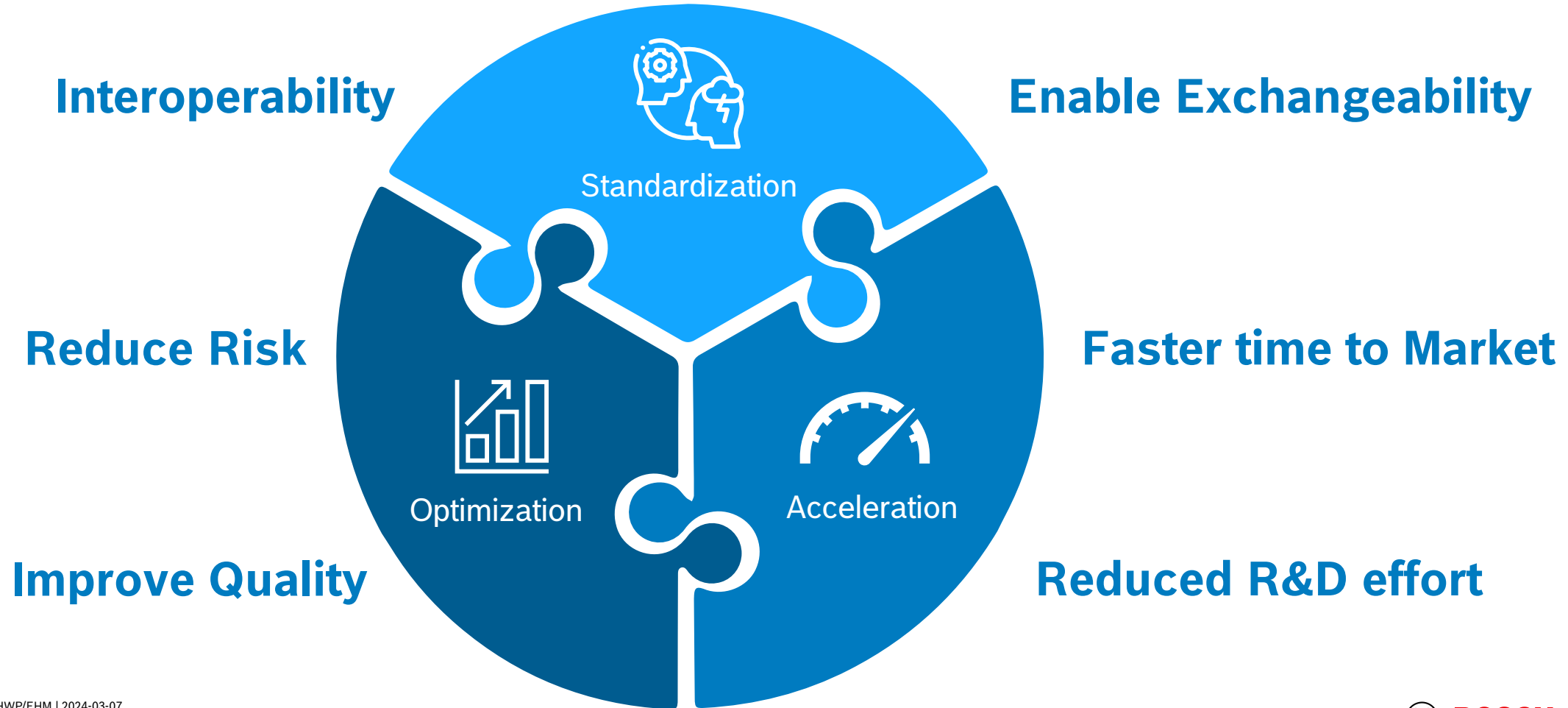


# BENEFITS OF 3<sup>RD</sup> PARTY IP IN COMPLEX EMBEDDED SYSTEMS

Dr. Dominik Erb  
Microcontroller Strategy & Operations BBM

# Benefits of 3<sup>rd</sup> Party IP in Complex Embedded Systems

3<sup>rd</sup> Party IP contributes to the success of current / future business

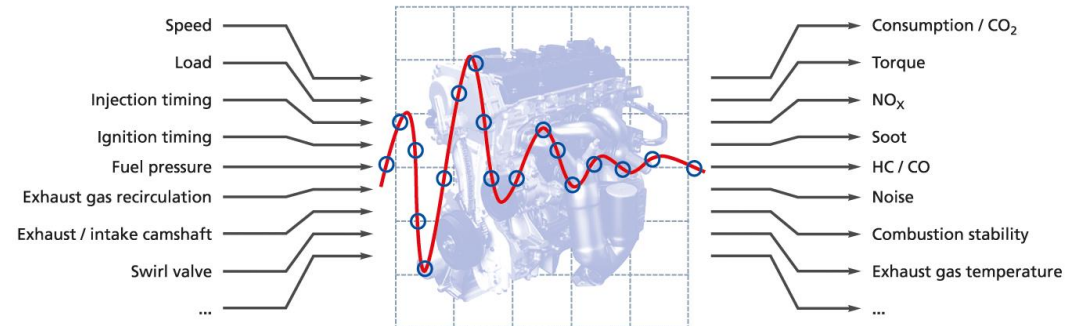


# Benefits of 3<sup>rd</sup> Party IP in Complex Embedded Systems

## Standardization is the basis of Interoperability & Exchangeability

GTM key for applications in and beyond power-train applications

Compute engines enable new algorithms, essential to address tomorrow's applications

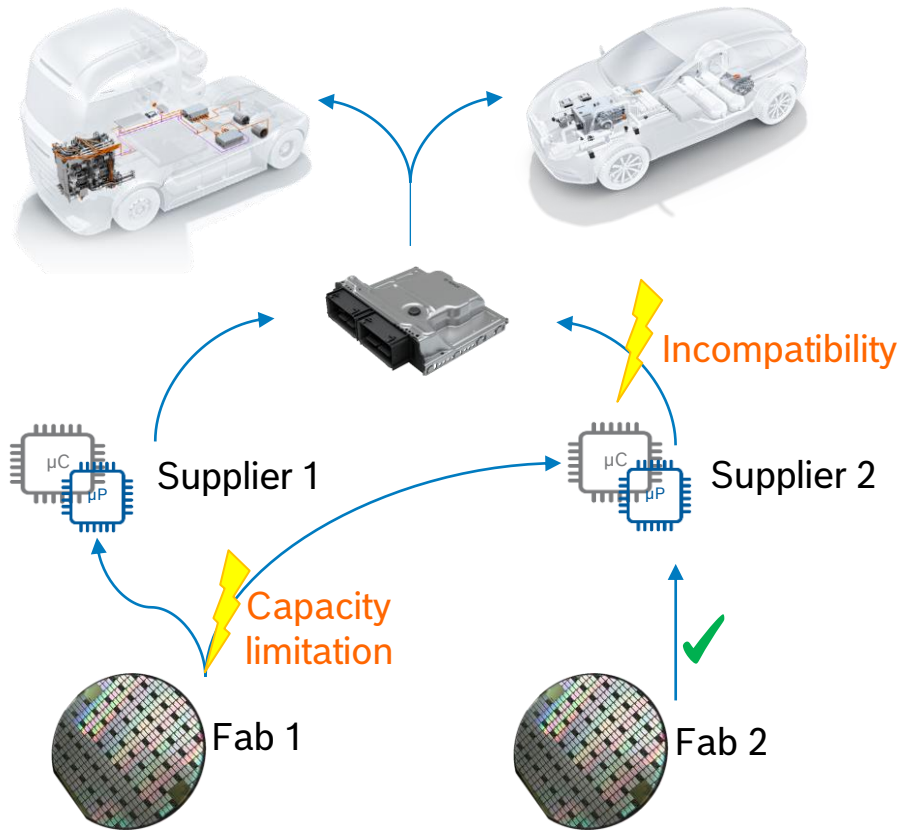


MathAcceleration IP

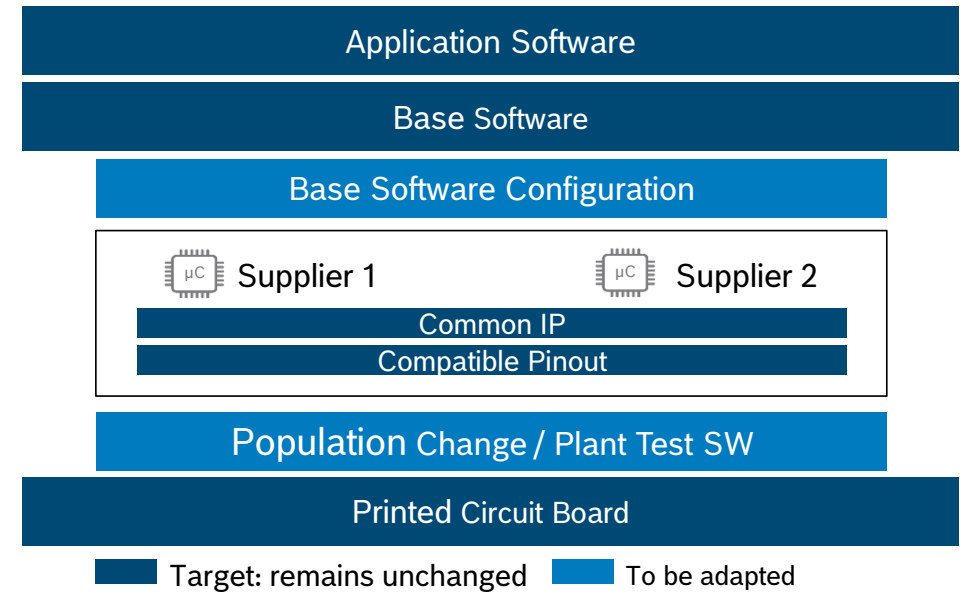


# Benefits of 3<sup>rd</sup> Party IP in Complex Embedded Systems

## Chip-crisis underlined the importance of resilient supply chains



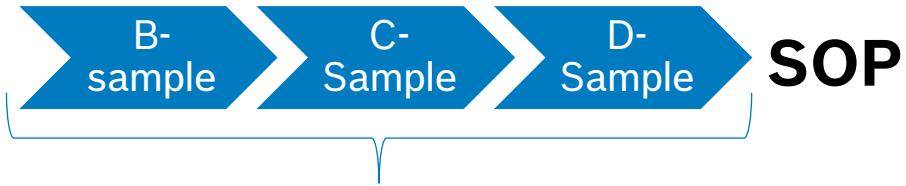
**Measure:** compatible hardware and software blocks from multiple suppliers for same application



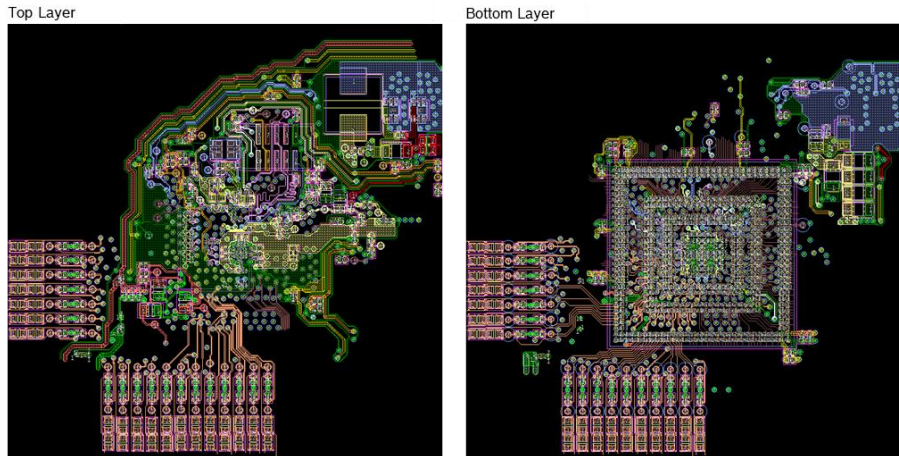
Common IP Blocks are the prerequisite of Bosch's 2x2 strategy

# Benefits of 3<sup>rd</sup> Party IP in Complex Embedded Systems

## Automotive design: long cycles adversely affect exchangeability

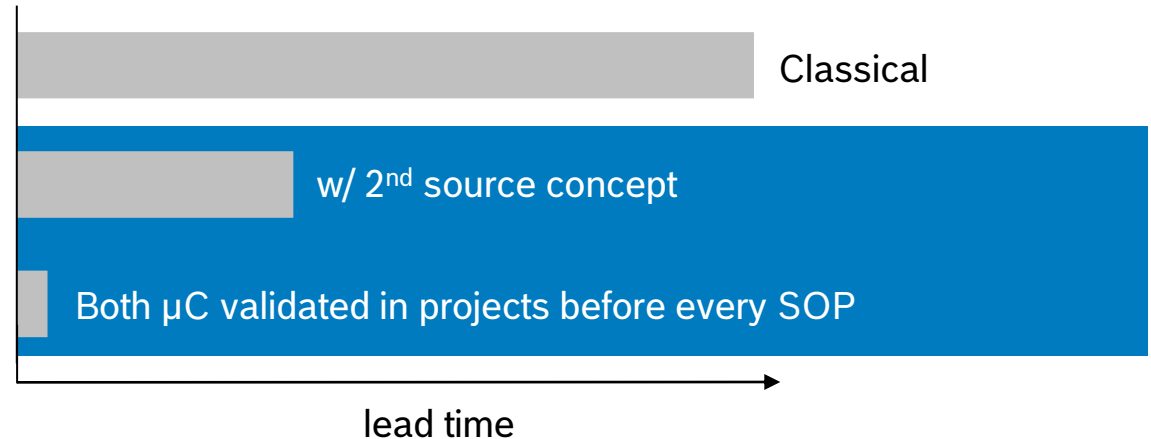


**>3 years in regular project**



**Exchangeable MCUs with common pinout enable fast replacement of suppliers**

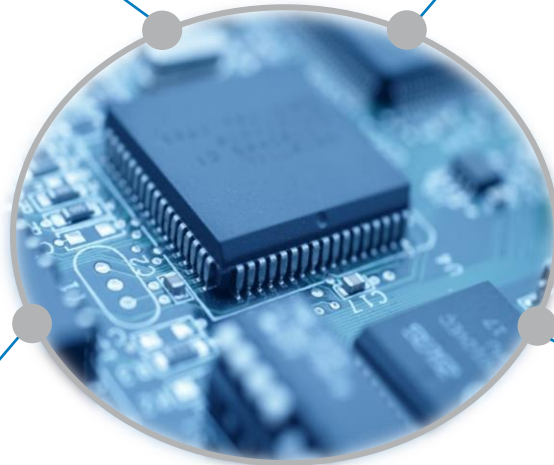
**Benefit of Standardization:** Reduced lead time for  $\mu$ C exchange in product applications



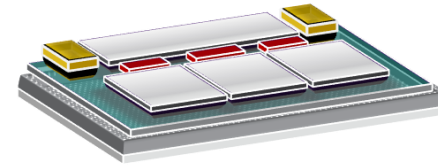
# Benefits of 3<sup>rd</sup> Party IP in Complex Embedded Systems

## Bosch IP contribution is not limited to design components

### Next generation core architectures



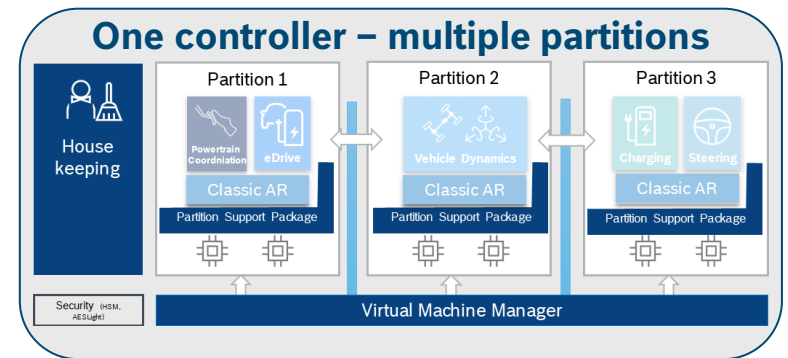
### Automotive Chiptlets



### Communication standards



### Embedded Integration Platform



The background features a complex, abstract digital pattern. It consists of numerous overlapping, semi-transparent white and light blue lines and shapes, including rectangles, circles, and irregular polygons. These elements are arranged in a way that creates a sense of depth and movement, as if they are floating or flowing through a three-dimensional space. The overall color palette is dominated by cool tones, primarily blues and whites, with some subtle hints of light purple and green. The pattern is most dense on the left side of the image and gradually becomes more sparse and transparent towards the right, where the text is located.

**THANK YOU**