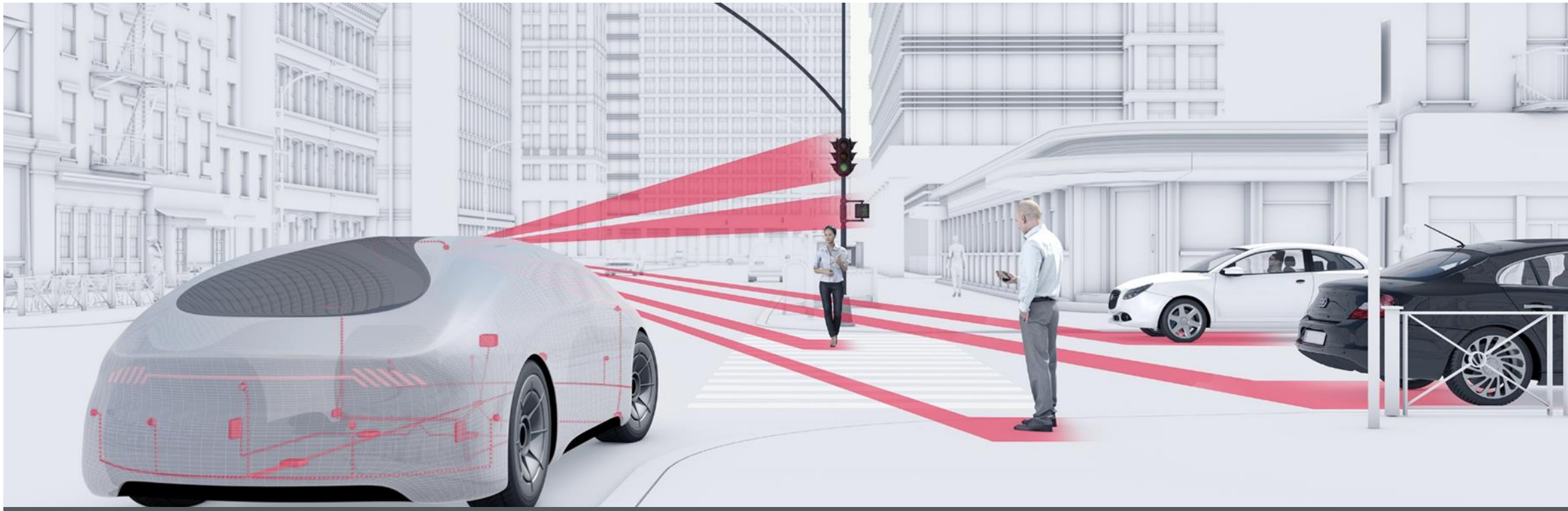
VECTOR

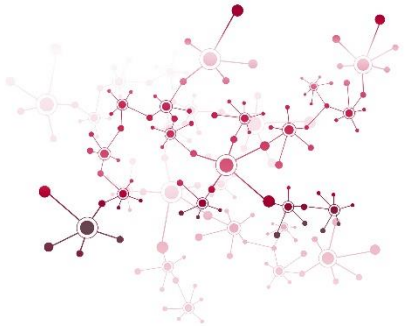


TA Tool Suite – Product Introduction

Managing the Runtime Behavior of ECUs in All Development Stages

V1.0 | 2020-07-15

Market Situation



Increasing

Software

- Amount of Software features
- Demand for more computation power
- Need for parallelization

Increasing

Hardware

- Capabilities of processing units
- Complexity of processing units

Increasing

Development Process

- Collaboration of
  - different roles across several development phases
  - different companies
- Need for automation and continuous integration processes

Challenge 1/2

Defining and maintaining a proper
static software and hardware architecture
with well defined interfaces between

- companies
- user roles
- software parts

Solution

PREEvision

DaVinci Developer

DaVinci Configurator Pro

Vector provides the tool support

Challenge 2/2

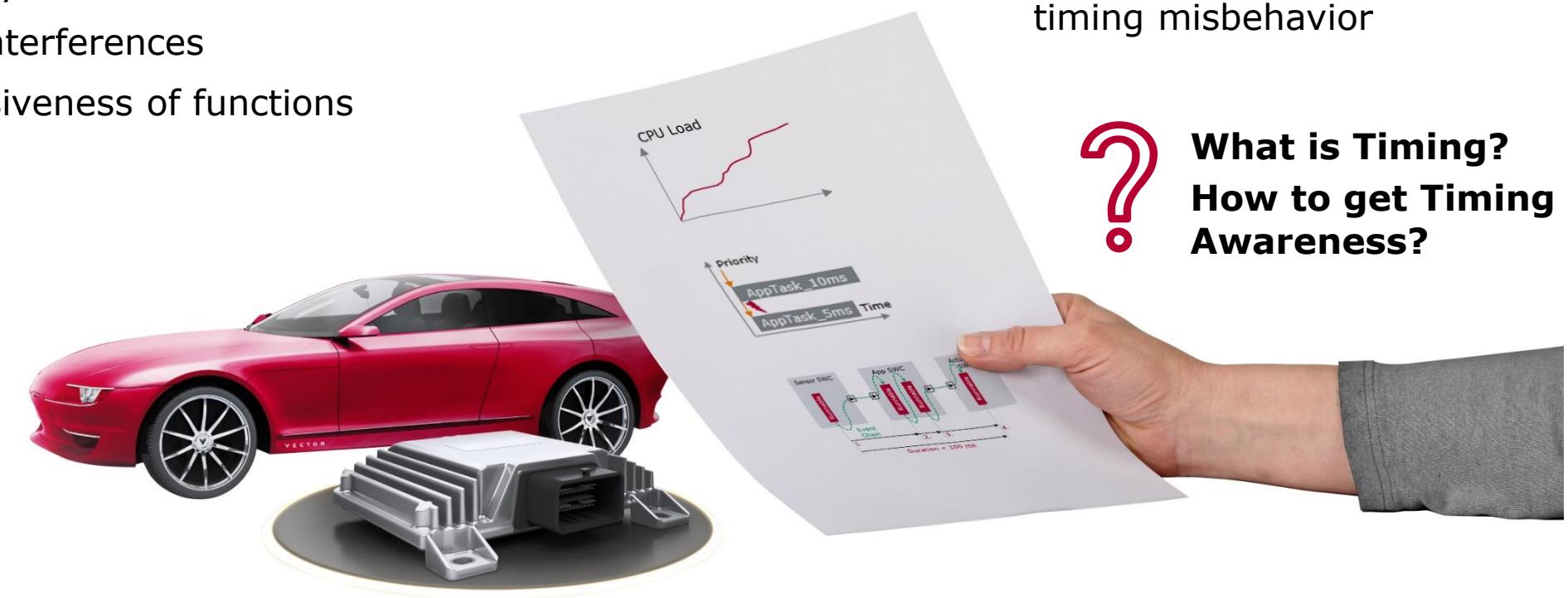
Defining and maintaining a proper **dynamic runtime architecture**

Avoid functional errors due to

- overloaded systems
- scheduling interferences
- slow responsiveness of functions

Need

Easy, early
and systematic
Timing Awareness
to avoid and detect
timing misbehavior

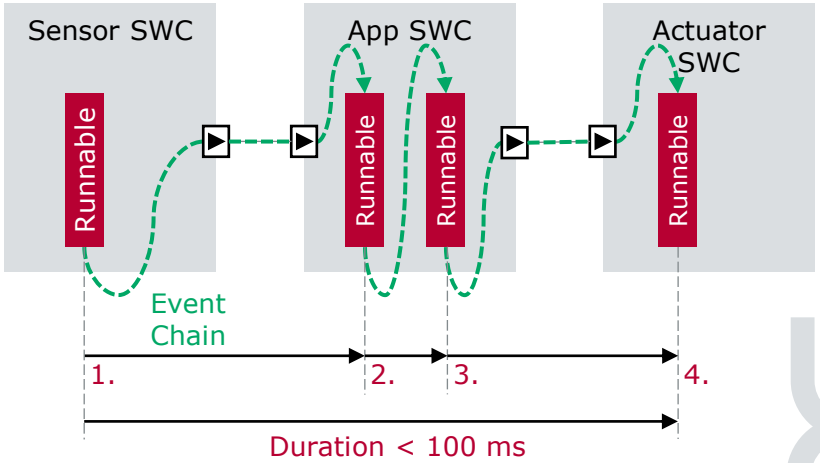


What is Timing?

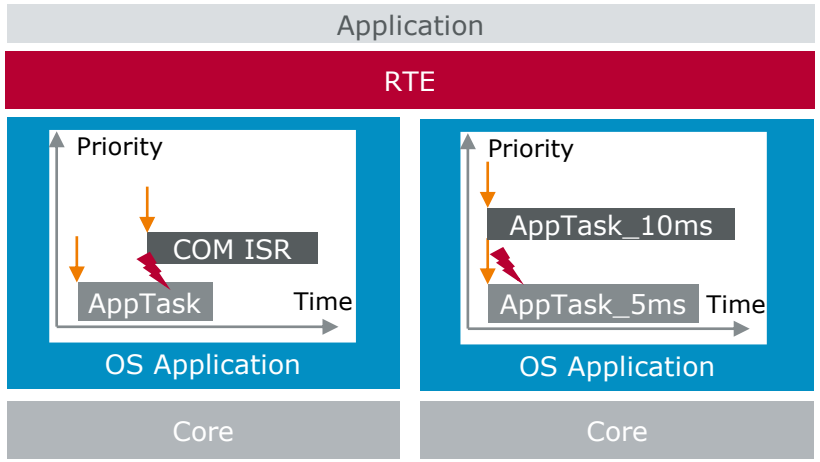
How to get Timing Awareness?

Aspects of Timing

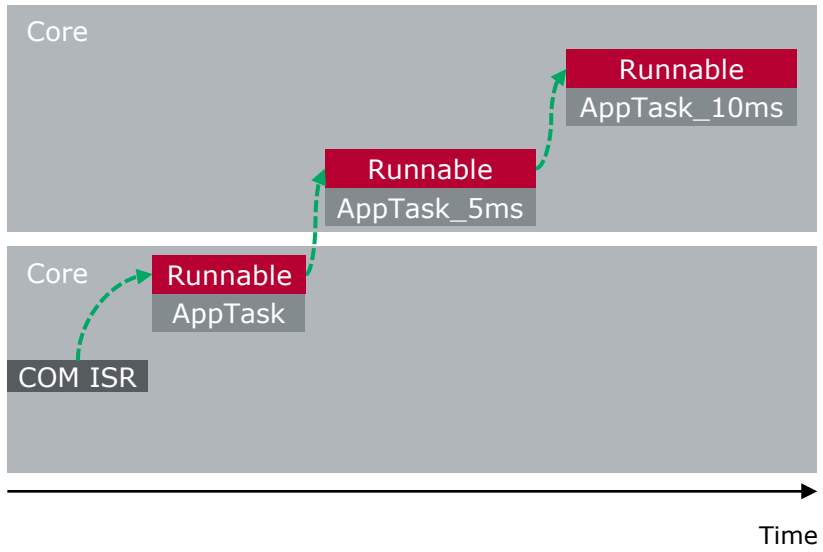
Software Architecture Design



ECU BSW Architecture Design



Function Realization & Integration



ECU Software Testing

- Response Times
- Execution Times
- Event Order
- CPU Load
- **OVERALL**

Why is There a Lack of Timing Awareness?

Timing analysis is debugging in error cases

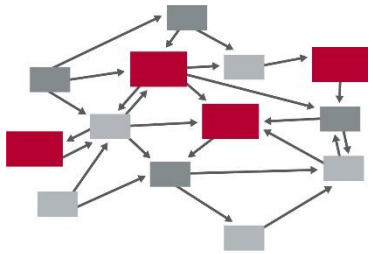
Timing analysis is only possible with hardware measurements

Really?

Setting up a timing tool chain is time consuming

Manual configuration, testing and debugging steps are necessary to ensure continuous timing analysis

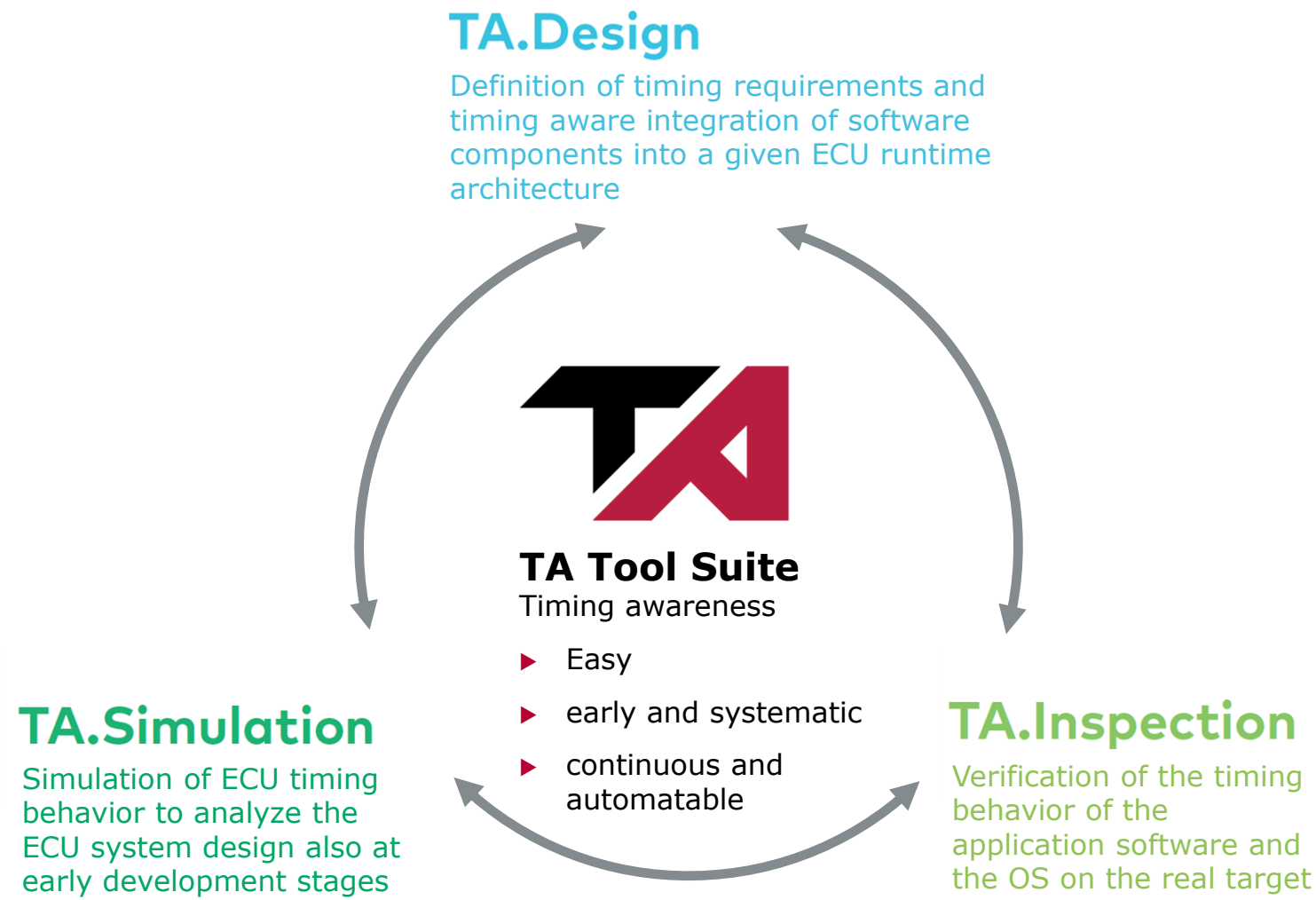
Vector has the solution – **TA Tool Suite**



Timing analysis is complex due to varying debugging and tracing possibilities and methods

Many tool interfaces increase complexity for manual and automatic timing analysis

Solution: TA Tool Suite



Timing Awareness – Easy

DaVinci Configurator Pro

Smooth interface to
DaVinci Configurator Pro

Import ECU System
Models

- AUTOSAR
- AMALTHEA
- ASAM MDX
- CSV

TA.Design

ECU

Import all common
trace formats

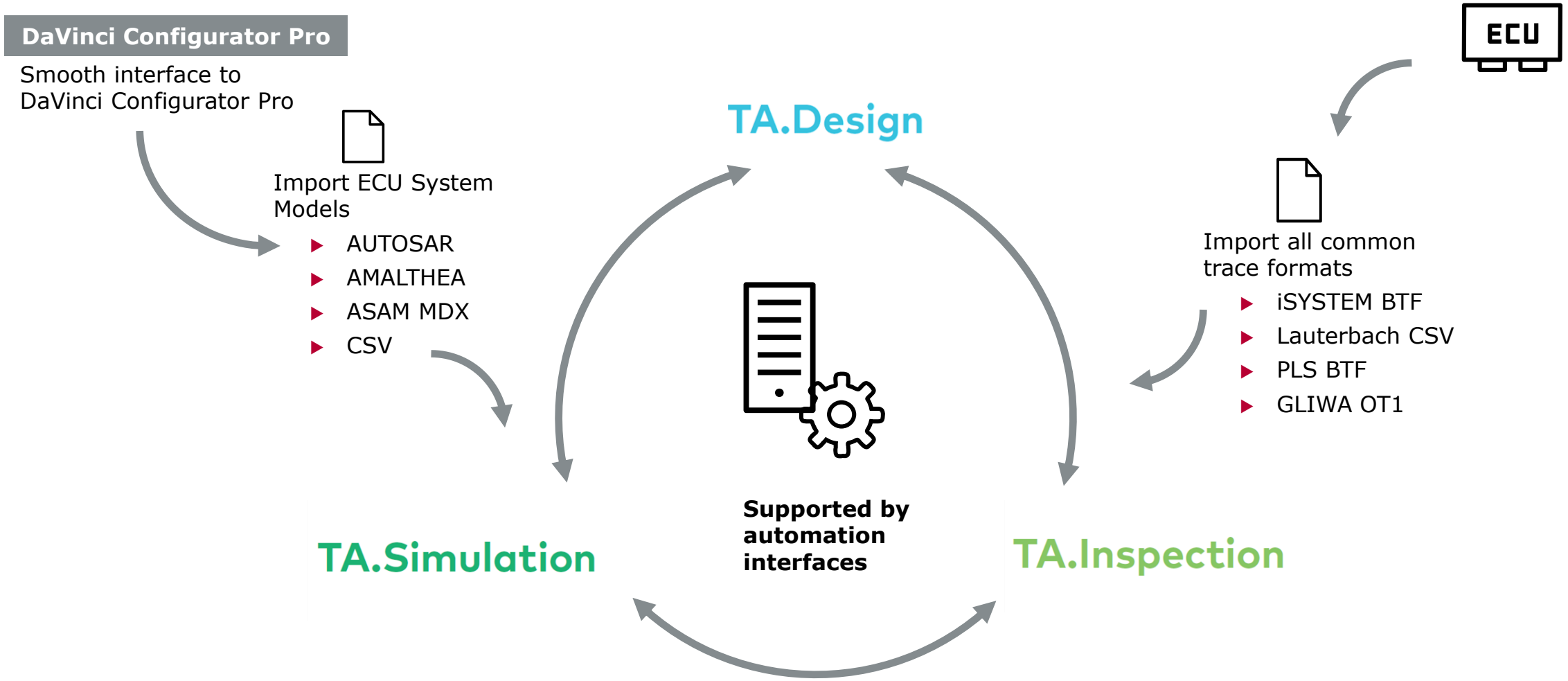
- iSYSTEM BTF
- Lauterbach CSV
- PLS BTF
- GLIWA OT1

**Supported by a clear
and consistent GUI**

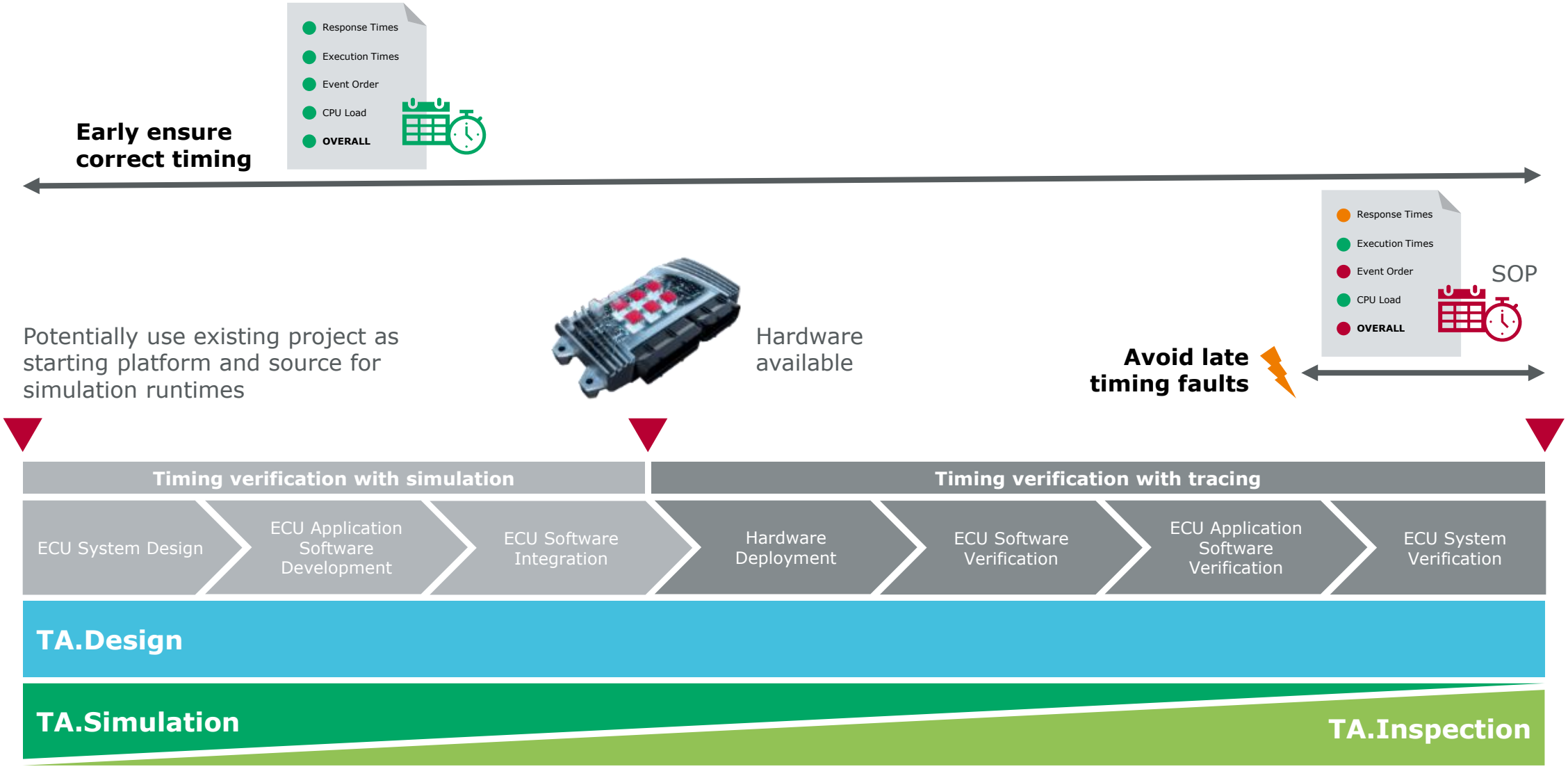
TA.Simulation

TA.Inspection

Timing Awareness – Continuous and Automatable



Timing Awareness – Early and Systematic



VECTOR

Test the TA Tool Suite in Your Project

Preparation Phase

- Alignment on use cases
- Provide your input files
  - Scheduling trace
  - ECUC & system description

- ✔ Timing analysis in customer ECU project
- ✔ Guidance by experts within all phases

Test Installation Phase

Kick-Off Meeting

- Project setup
- First steps
  - Quick Training
  - Define next steps

Regular Meetings

- Coaching sessions to implement your use cases
- Questions and answers

Continuous support by Vector coach

Experience the Benefits of This Solution in Your Own ECU Project!

- Free test installation of TA Tool Suite for 2 weeks
- Dedicated Vector coach to guide you throughout the Test Installation Phase with
  - Regular meetings
  - On demand support via mail and phone

For more information about Vector
and our products please visit

www.vector.com

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