A Flexible Software Ecosystem and Marketplace for Hybrid AI Vision Solutions

Bastian Steinbach
Head of Software Product Management
Basler AG

Agenda

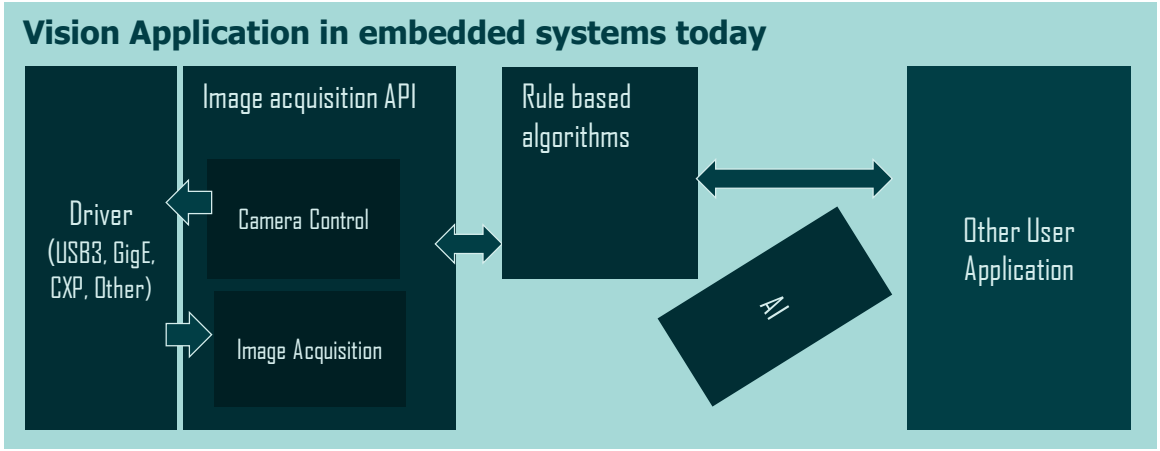
- Typical way of solving vision problems from a developer point of view
- Advantage of a hybrid AI vision solution
- Challenge of development and deployment systems
- Pick and choose the right combination of AI and rule-based algorithms
- Can a flexible ecosystem solve the challenges?

Way of solving vision problems today

How do you solve your vision problems today

Today:

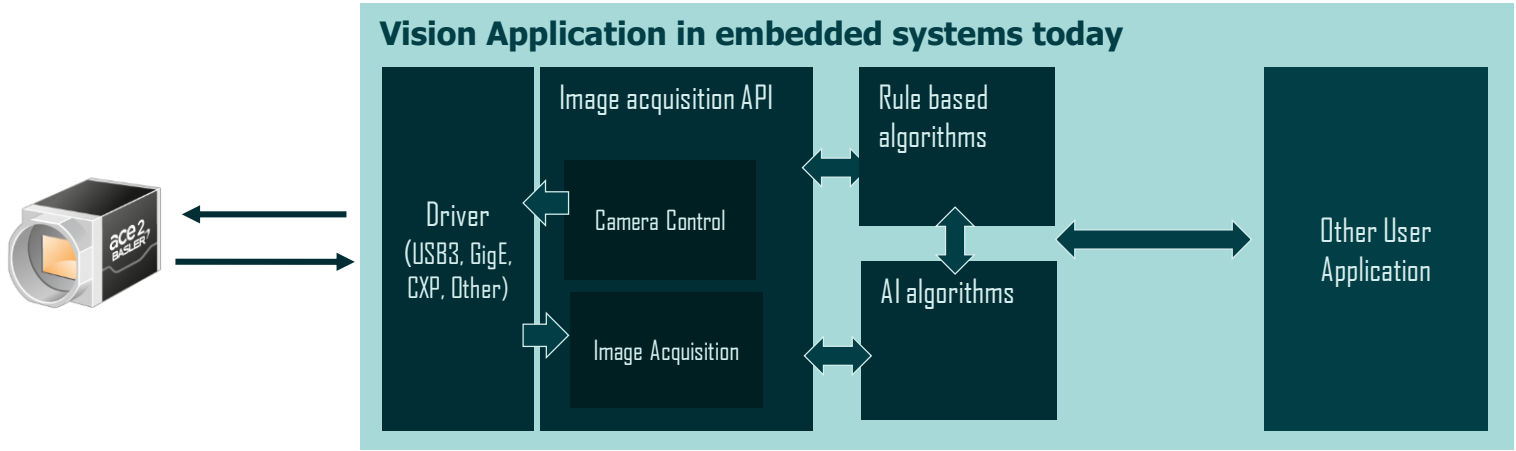
- Not challenging the whole problem from scratch
- Focusing on “new” problems or fine tune solutions
- Only searching for better performance in existing stuff
- Not evaluating new techniques



Advantage of a hybrid AI solution

Why to choose an AI hybrid vision approach

- Added value approach
  - AI including rule based
  - Rule based including AI
- Re-think the whole problem
- Evaluating all techniques
- Re-invent your solution



Challenges of development and deployment

Development and deployment

Decision done: Want to use a hybrid vision solution ✓

Now hurdles appear:

- Target system is not ready yet
- Smooth integration of AI and rule based
- AI training in cloud, executing on PC
- Solution works well with PC/cloud hardware – how to transfer it to embedded systems?

Pick and choose the right combination

Key requirements of a flexible framework

Requirements for business model

- Faster development
- Easy to implement – Ease-of-use
- Balance costs and quality
- Focus on building systems, not on building the software

Requirements for development processes

- No costs until you use it in production
- Modular software
- Choose your best combination with off-the-shelf tools
- Test different packages and modules
- Not focussing on only one library or AI architecture

Pylon - the flexible ecosystem

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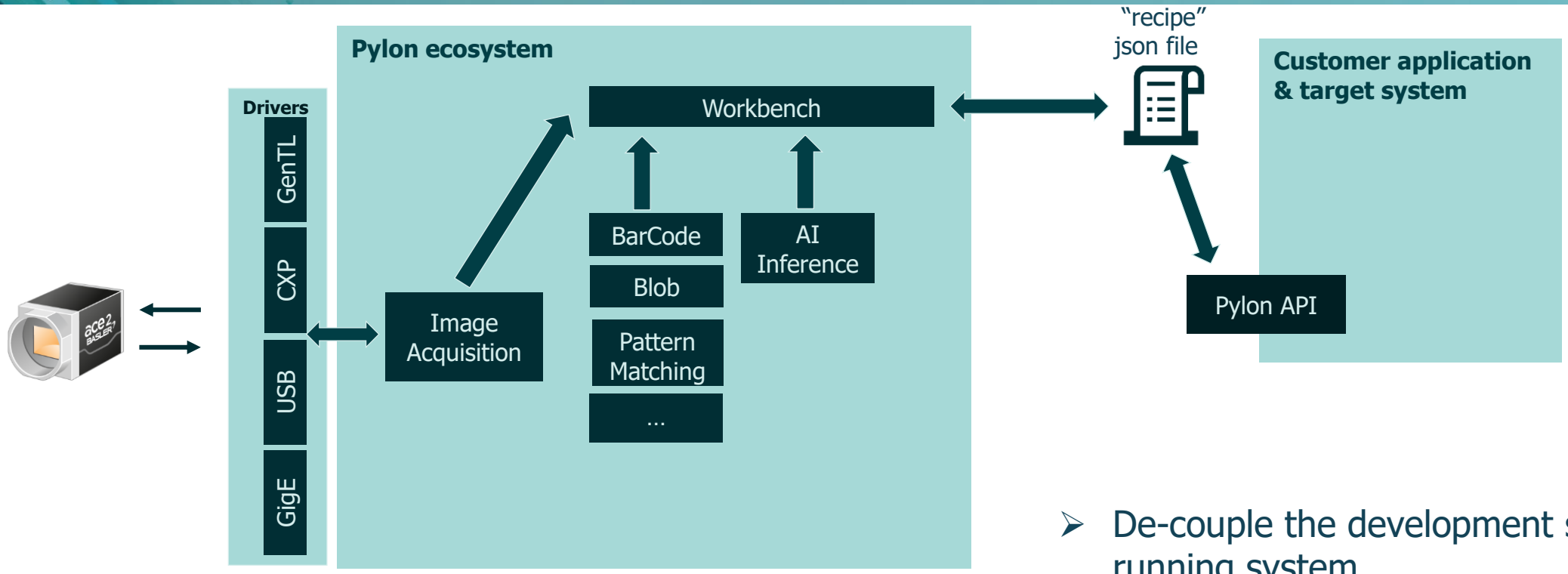
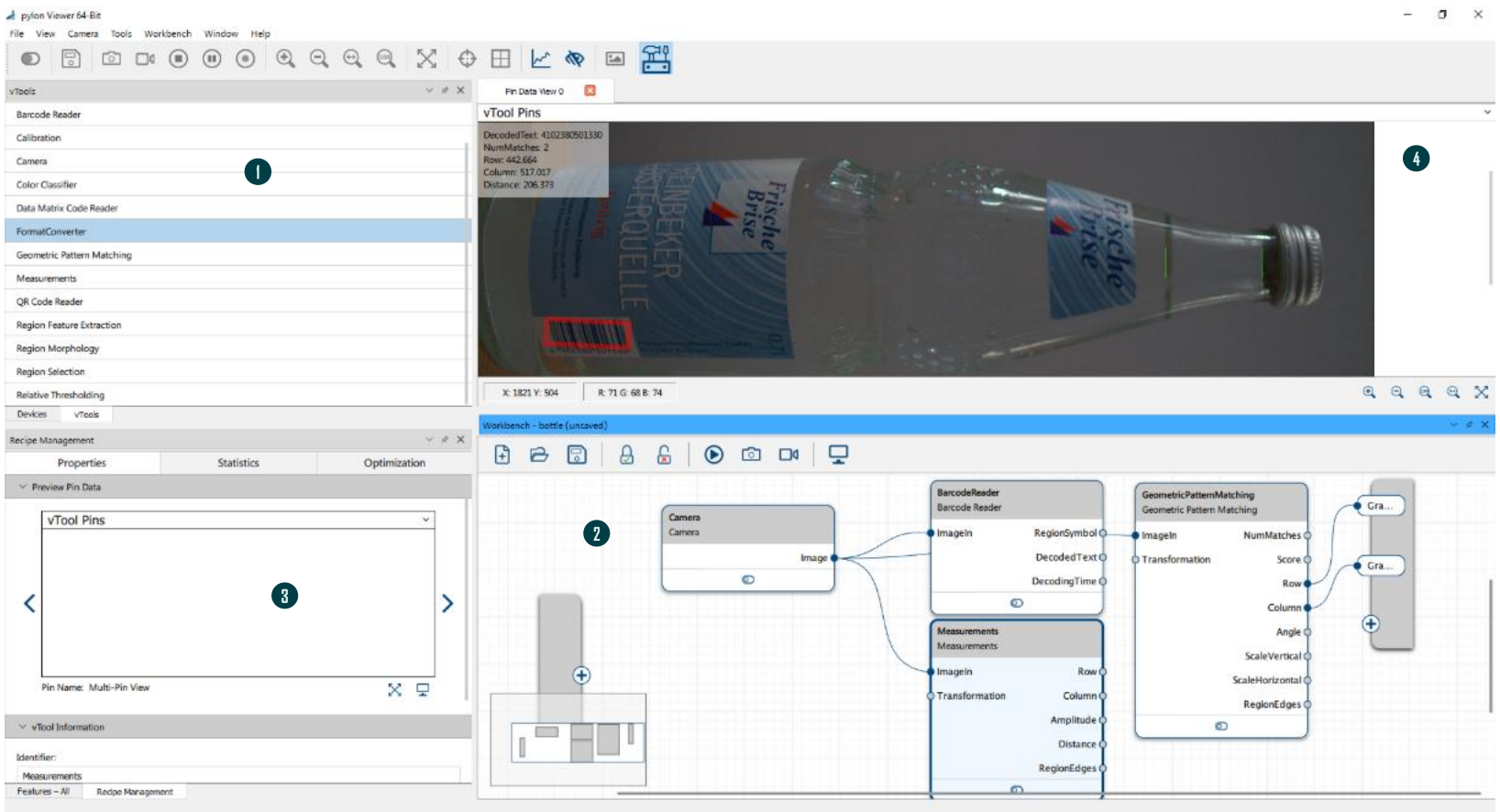
Pylon software ecosystem - overview



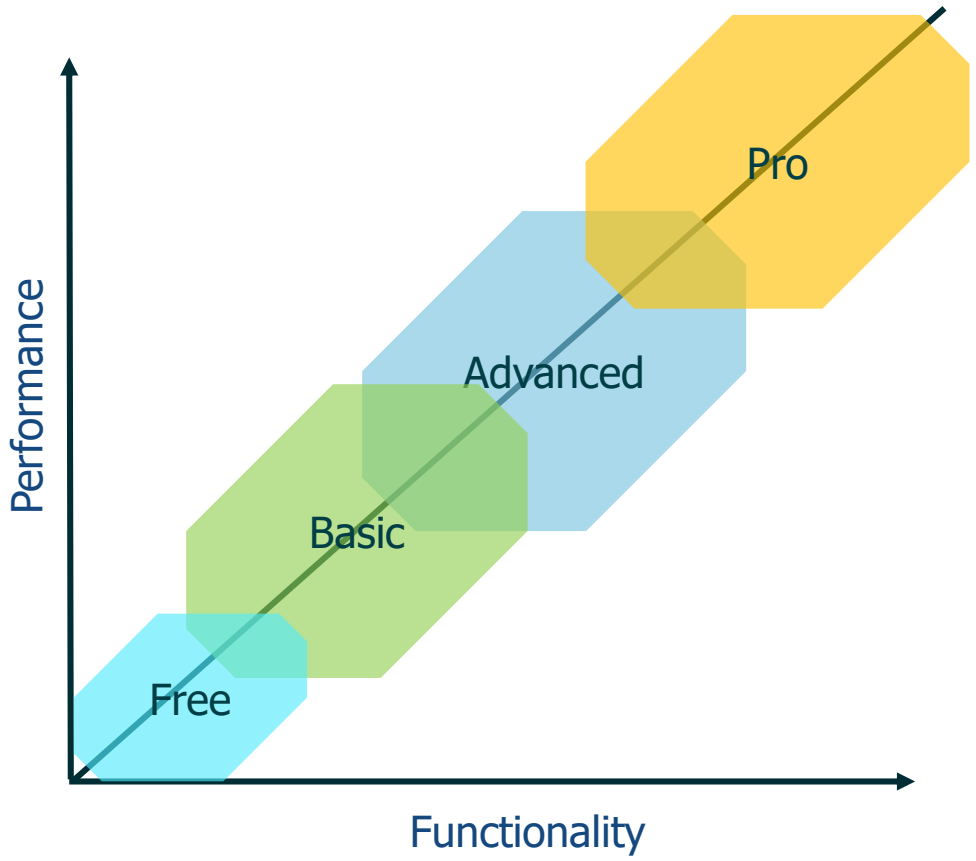
- De-couple the development system from the running system
- Vision solution as data flow processing
- AI and classical algorithms combined

Pylon workbench - UI



1. Choose the vision tool
2. Create your data flow process
3. Configure each tool
4. See results in live video

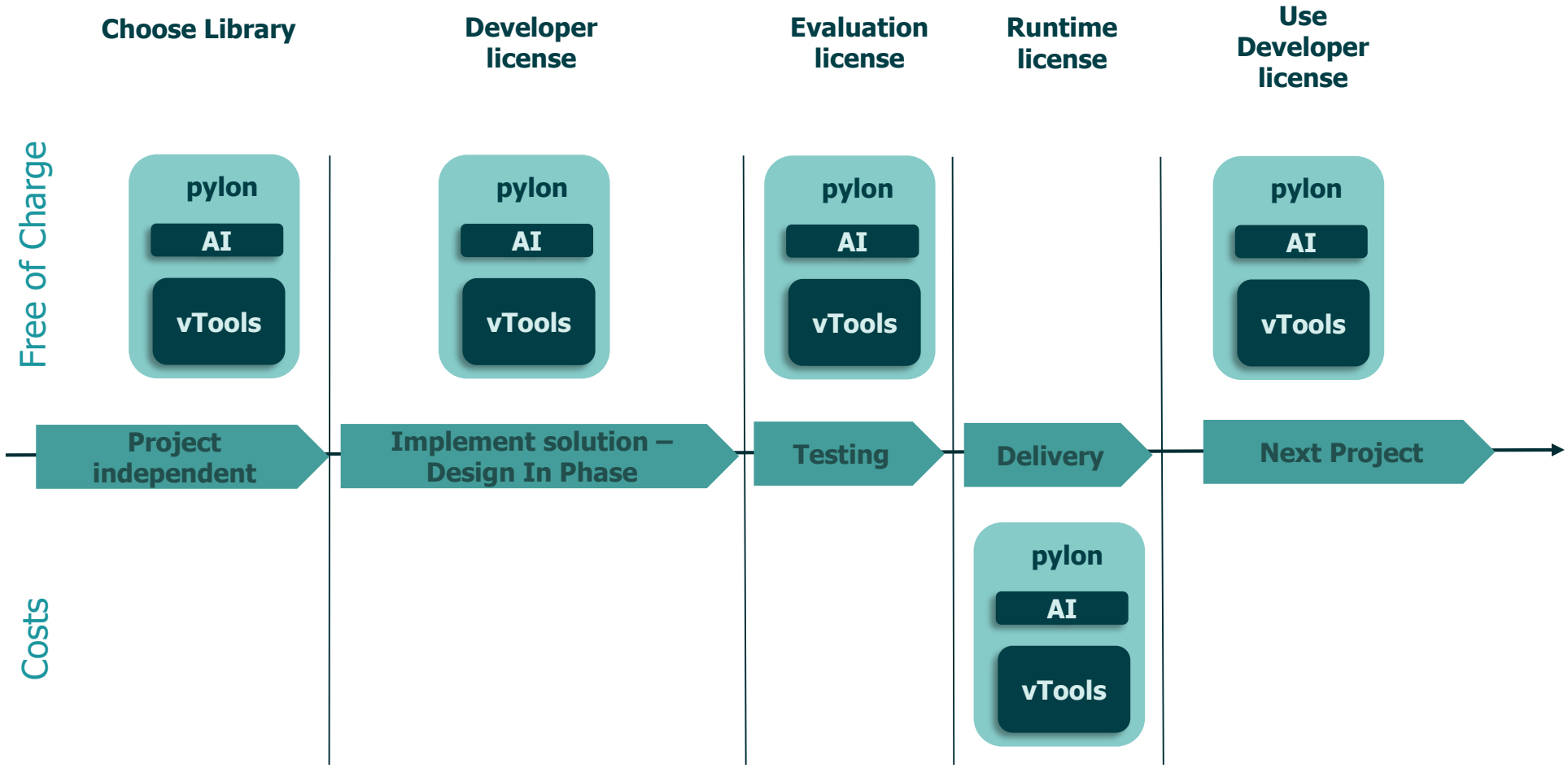
Pylon marketplace



Vision tool portfolio:

- For every platform – a wide portfolio available
- Find the right combination from different performance segments
- vTools will be downloadable via online marketplace
- Available portfolio optimized on target system
- Prediction possible: what kind of resources for target system needed

Pylon marketplace - licensing



- No costs until runtime for customer
- Costs per vTool per machine

Conclusions

Conclusions

Optimization of SW supply chain

Combining AI and classical algorithms. Test different vTools and find the best combination for your vision problem.

More focus on core business

Easy to use solution to focus more on the core business – off-the-shelf with high quality.

Target system focus

Develop on the system you prefer and just run it on target system. So speed up on your processes.

Bill of material

Increase cost efficiency on initial development and maintenance.

References

Resources

Websites

Basler AG:
https://www.baslerweb.com

Pylon framework:
https://www.baslerweb.com/de/produkte/basler-pylon-camera-software-suite/

Embedded Solutions
https://www.baslerweb.com/de/embedded-vision/ecosystem-support/

2022 Embedded Vision Summit

We are at booth 604 – give us a visit to have deeper talks about it

Thank You