ALL IN ONE
THE ONLY ONE

Agenda

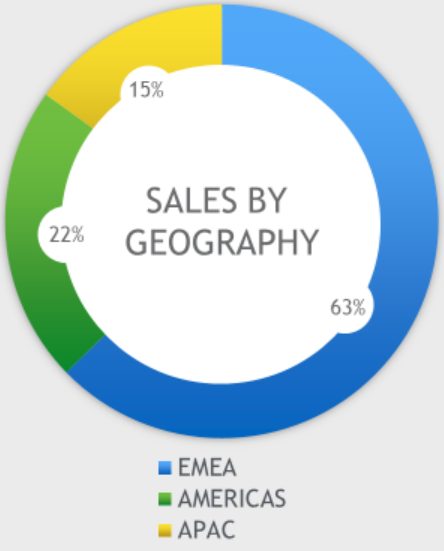
- Presenter: Esko Petäjä, Manager R&D
- Company
- Case Examples from AI and “Ecosystems”
- What and how to do and what not to do (Lessons learned)
- How get started
- Summary

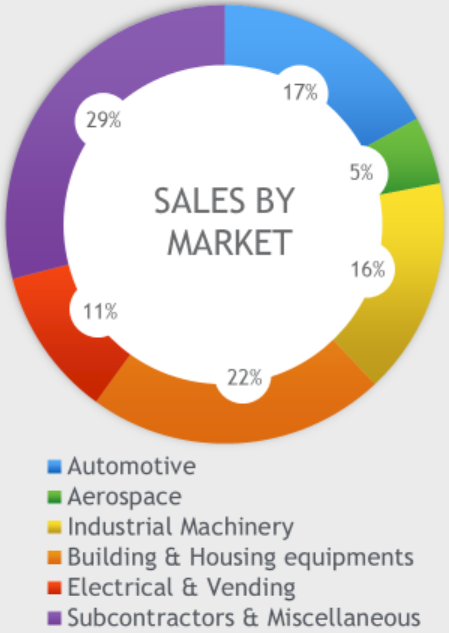
Prima Power

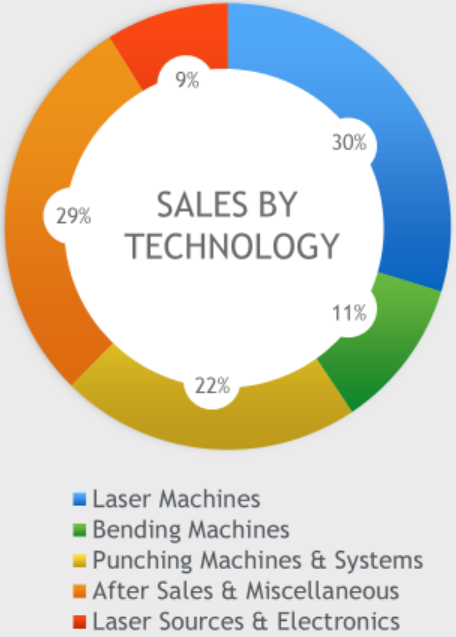
Prima Power is a global **leader in laser and sheet metal machinery.**
Its product range covers every step of metalworking: **punching, laser processing, bending, systems, automation and software.**

New Factory at Nuppiväylä

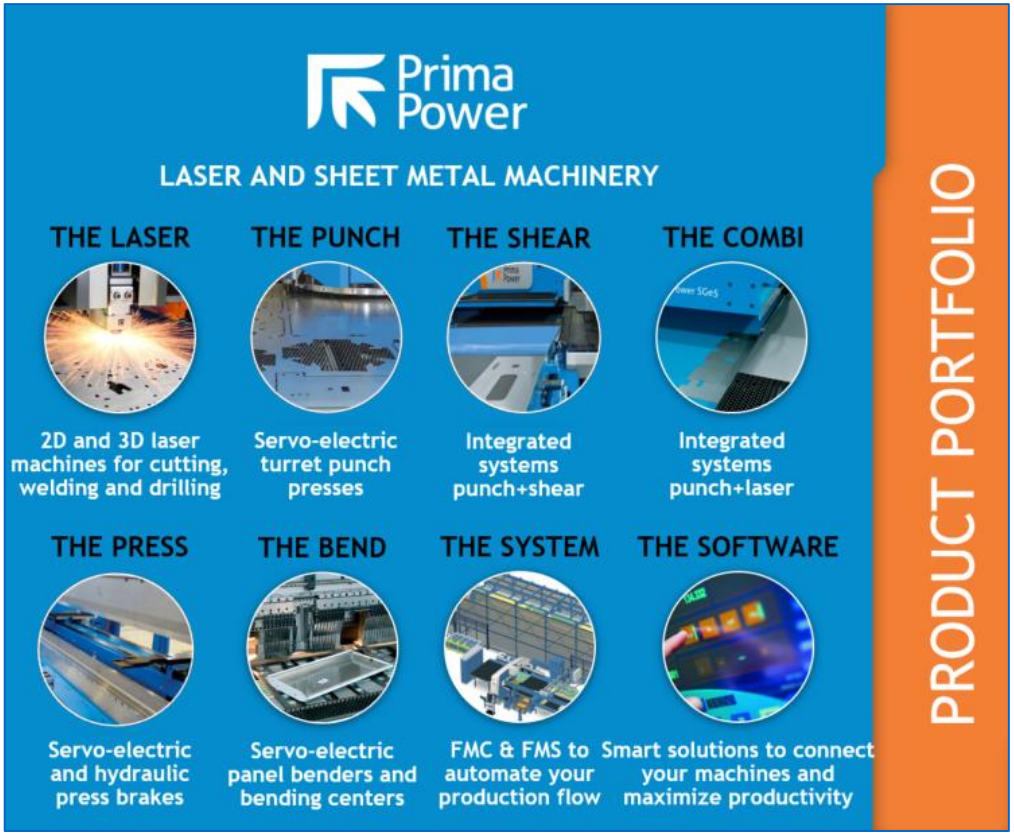
OUR GROUP - SALES





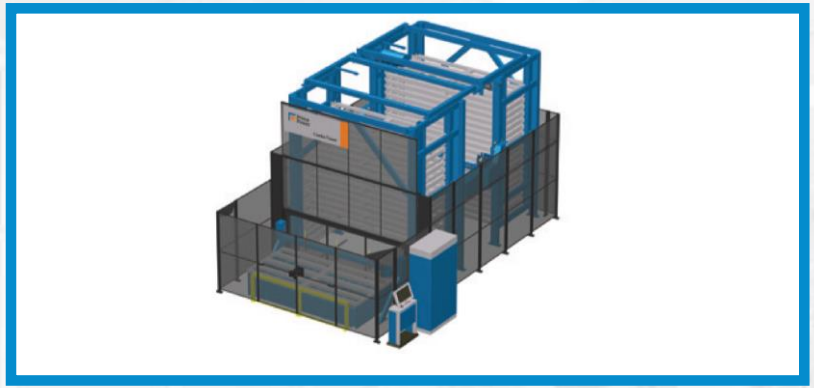


Product portfolio

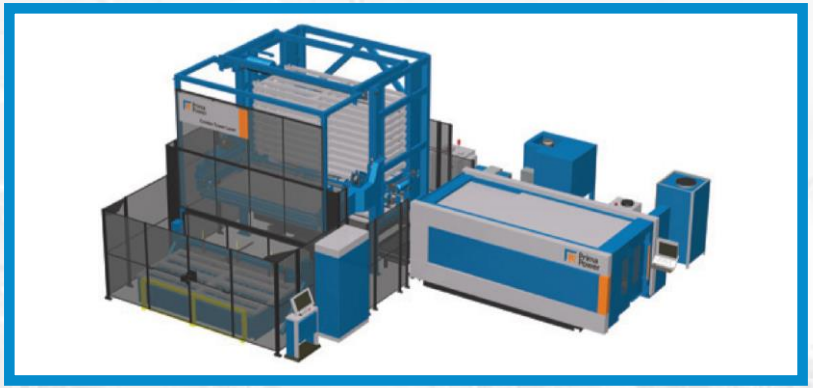


THE SYSTEM

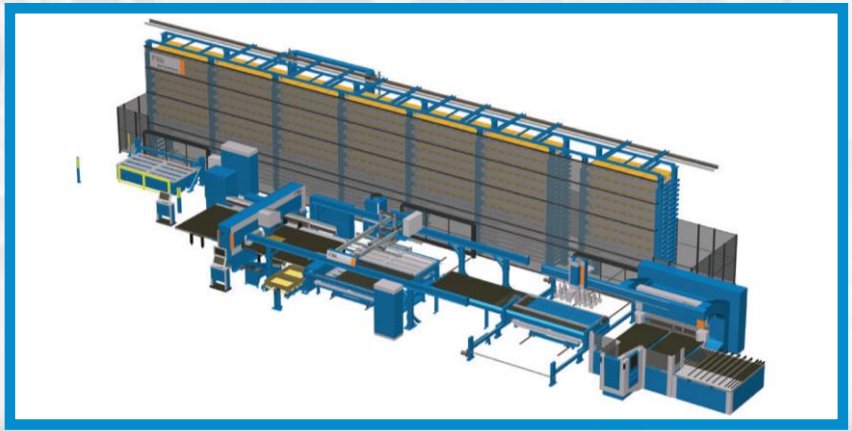
COMBO TOWER



COMBO TOWER LASER



NIGHT TRAIN FMS



Products Industry 4.0

Prima Power Solutions for Industry 4.0 and Smart Manufacturing

Industry 4.0 inside

Ready for today's production needs... and for tomorrow

INTELLIGENT MACHINES & FACTORIES

Intelligent machines and automated factories collecting real-time and historical data through sensors and cameras

SMART SOFTWARE

Prima Power software comprehensive portfolio of modular software-based systems

REMOTE DIAGNOSTICS & MAINTENANCE

Data-driven machine diagnostics and predictive maintenance services. Production performance analysis, monitoring of machines status and condition.

Examples from cases

What means AI In Prima Power products

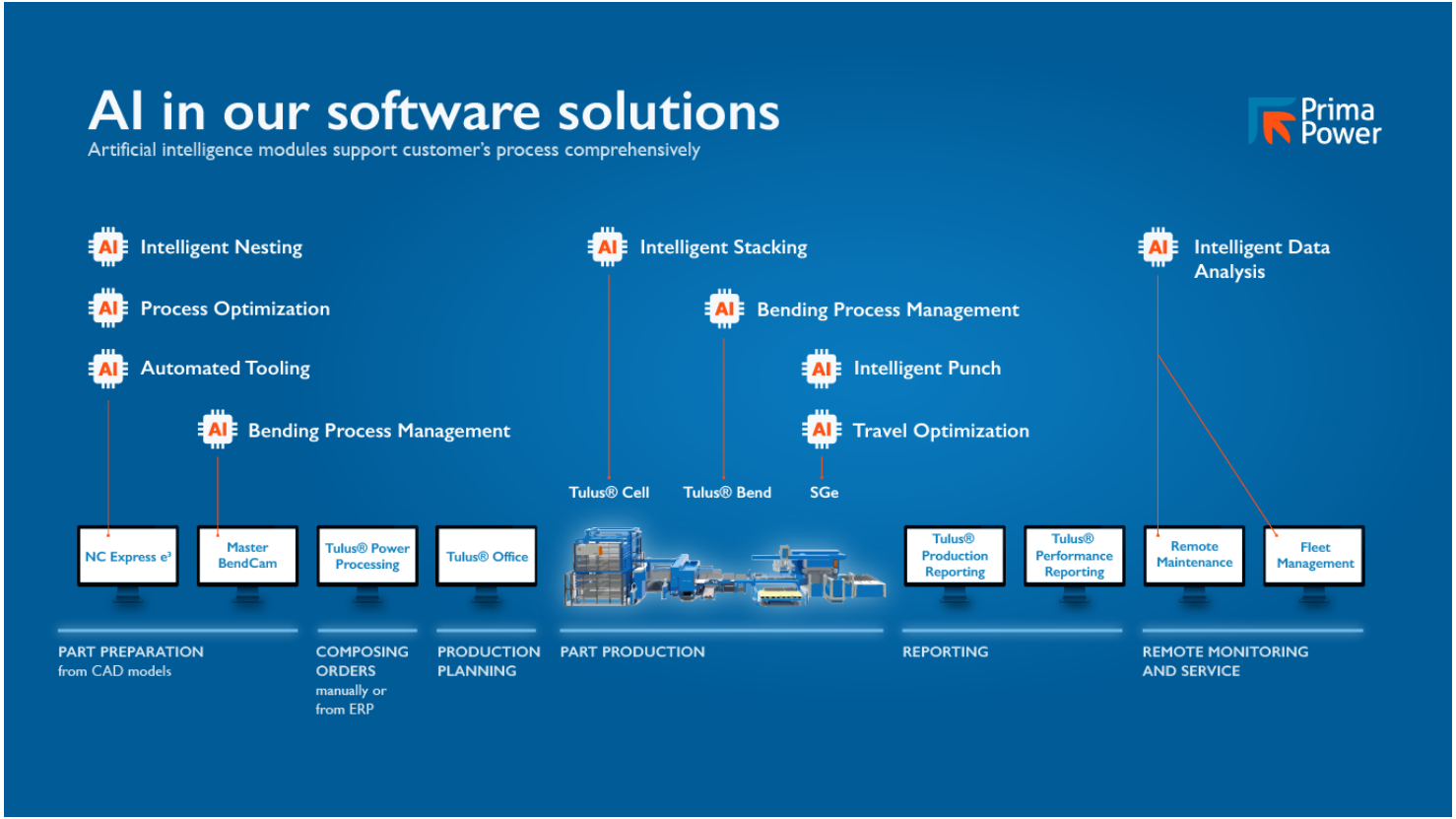
Intelligence in Products

- Save cost, material energy etc.
- Machines are more reliable or faster
- Decision support for users

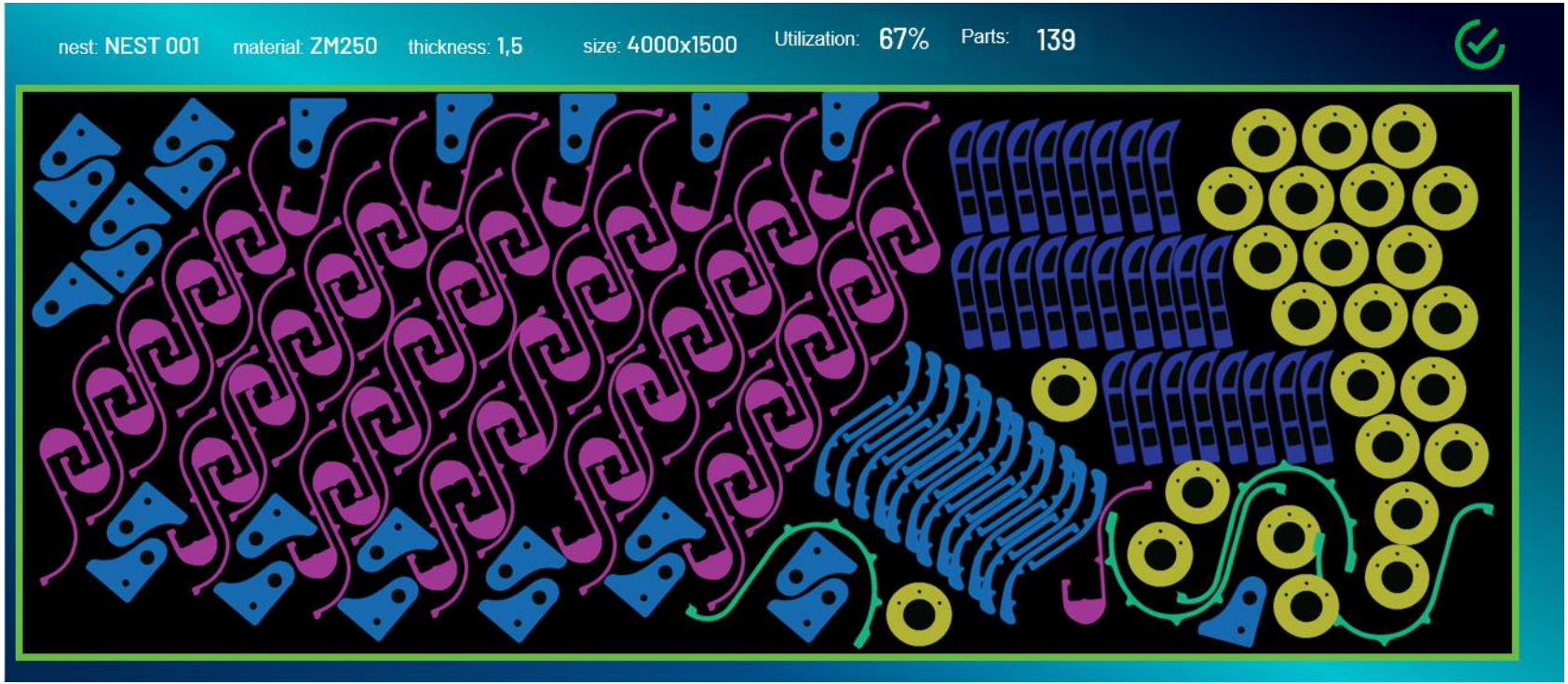
AI as part of IOT and data driven solution

- Finding “Abnormalities”
- Finding root reason for machine stops
- Prediction

Examples from AI



Examples 1: AI saving Material

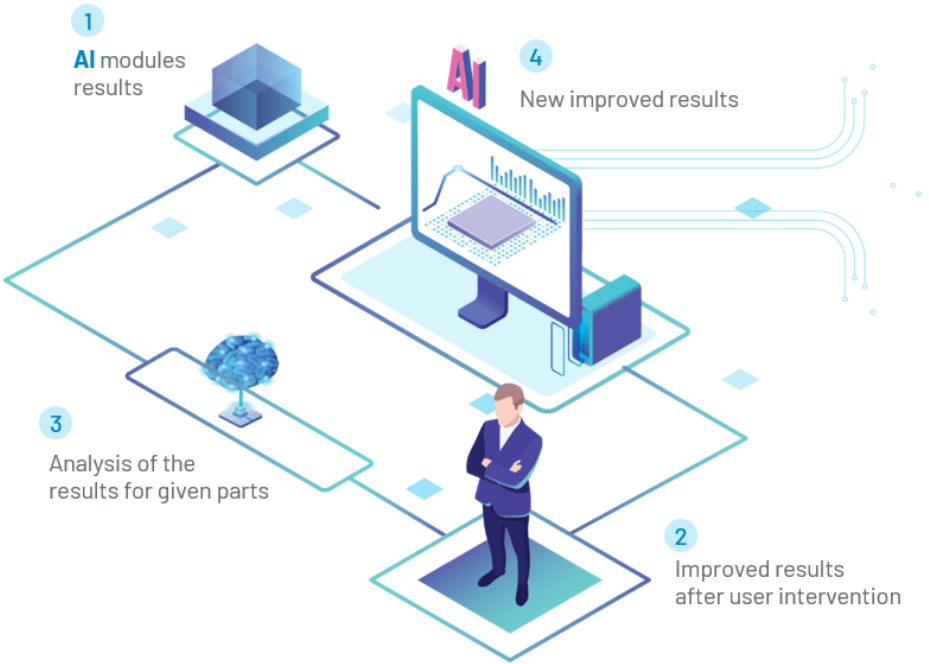


Examples 2: AI and machine learning learns user behaviour

Machine Learning, Autotool

During bending and blanking Autotooling, smart modules analyze parts contours piece by piece to apply the right tooling. Depending on product design and specifics, the user can add changes interactively.

Every time AI modules record the user's results and juxtapose them with the automatic results to learn how to adapt to individual company's needs and improve automatic function over time



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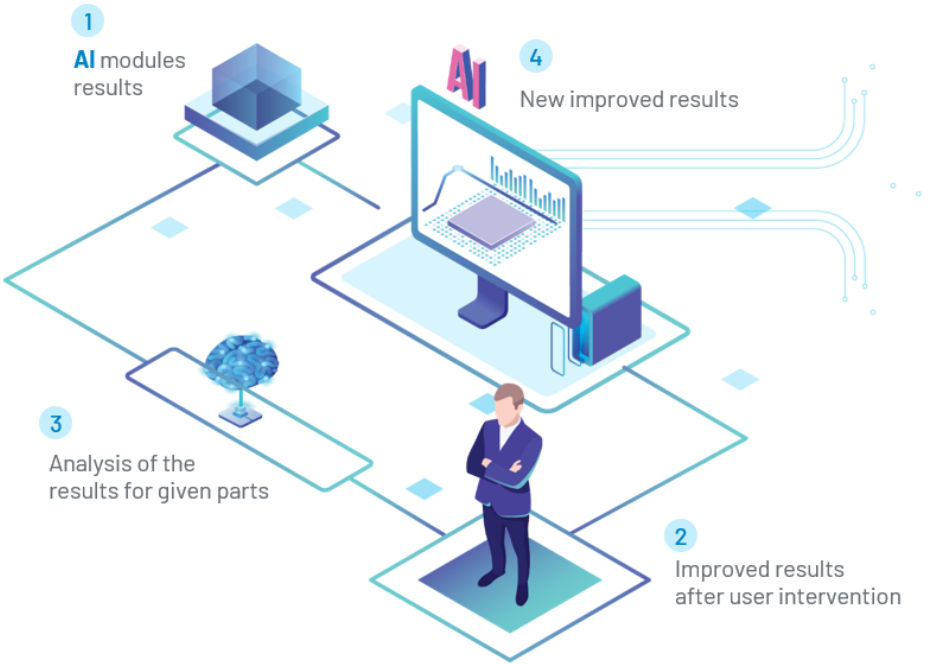


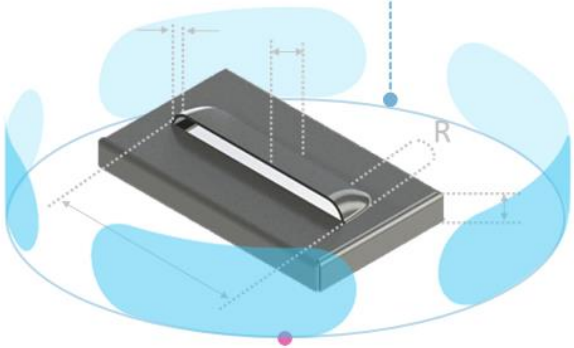
Examples 4: AI and machine learning learns manufacturing features

Machine Learning, Import

Globally the Smart Module are learning to be smarter and autonomous

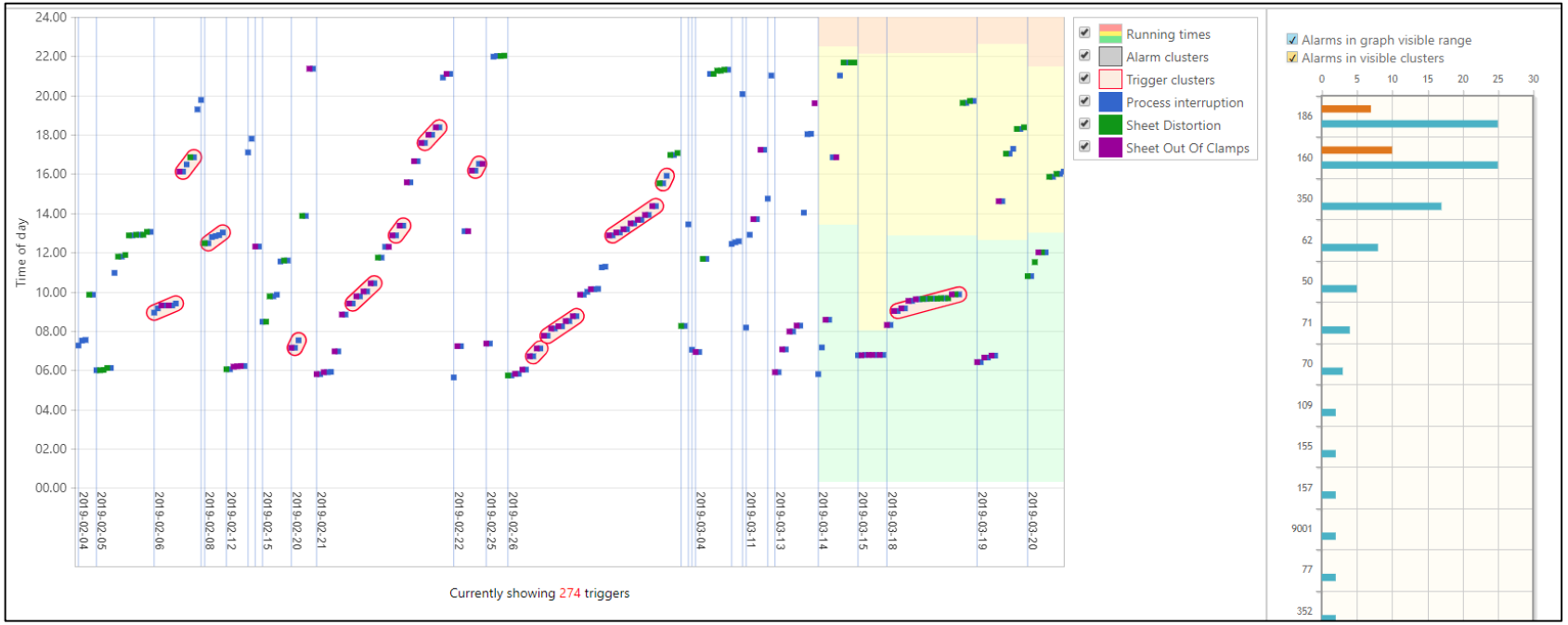
NC Express can automatically recognize various surface features with hundreds of variations, and apply the needed tooling automatically

Whenever there is a new feature, NC Express will analyze its attributes and save them to a database to be used next time when a part with similar features is used

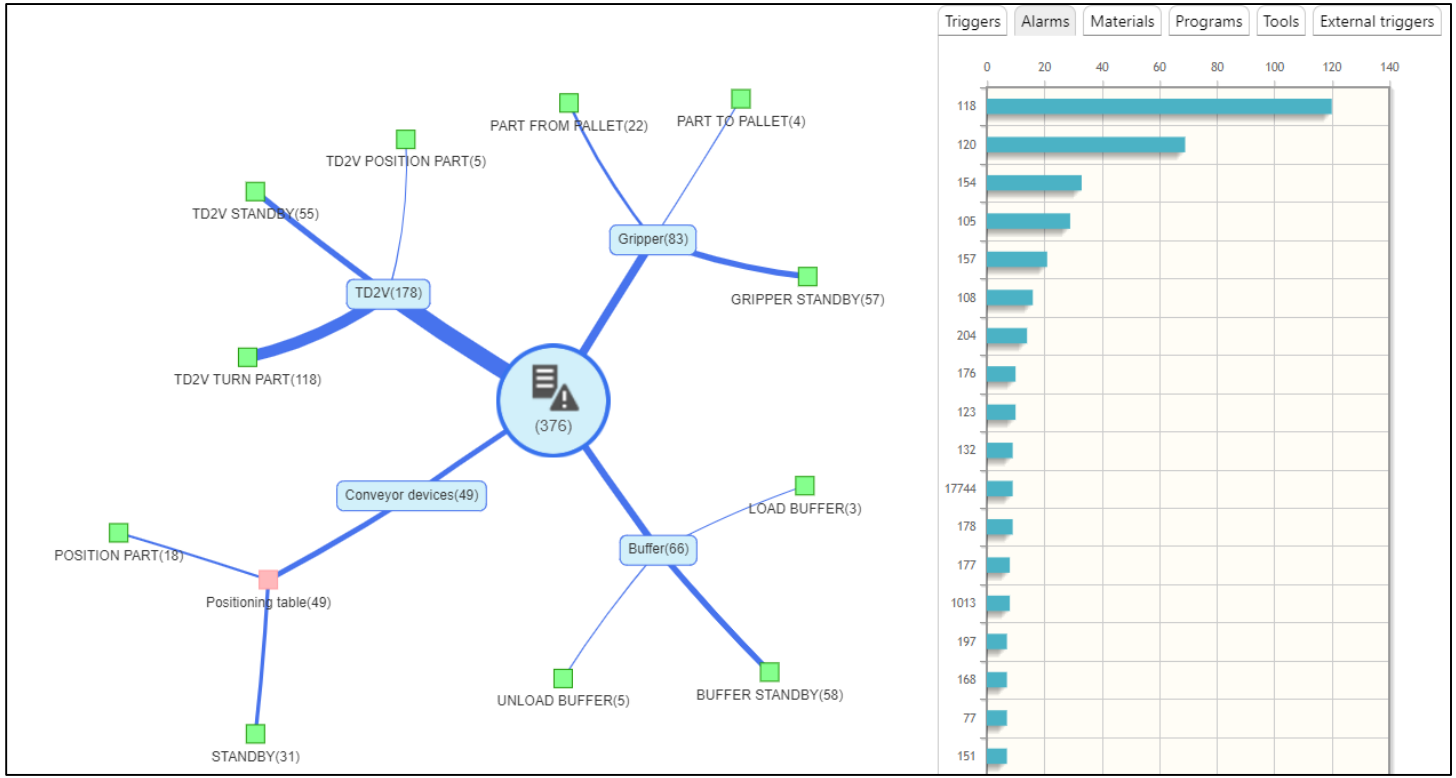


Locally NC Express is adapting to users needs over time

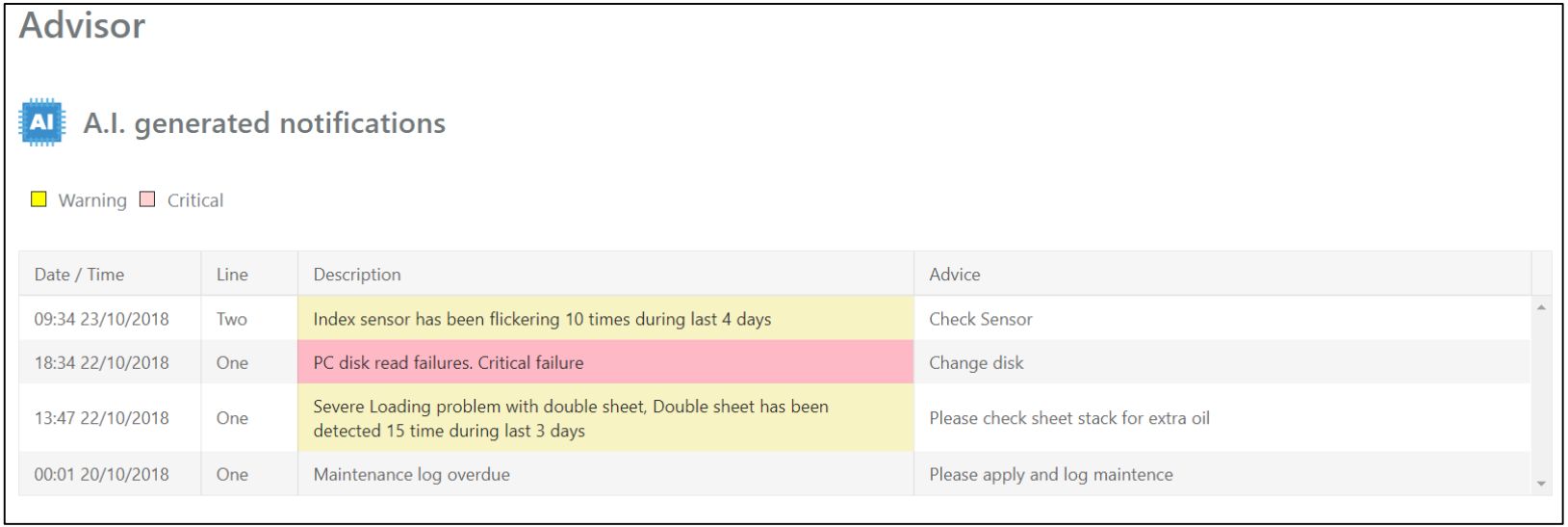
Examples 5: AI and clustering analysing machine downtimes



Examples 6: AI analysing Root causes for machine stops



Examples 7: AI as adviser and in predictive analyse



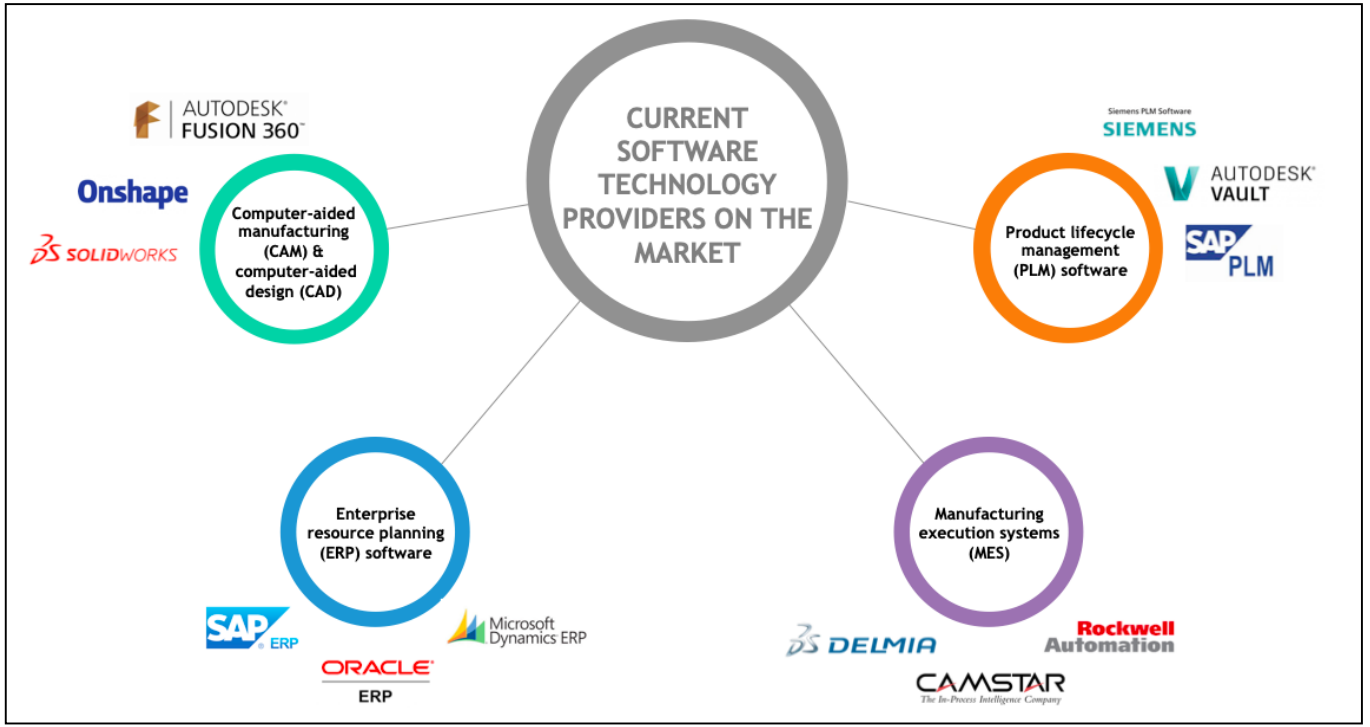
Examples 8: Platforms and Ecosystems

What means platforms and ecosystems for prima Power

- Additionally to highly performing machines information flow between stakeholders is important
- Stakeholders in manufacturing
  - Customer and their customers (Managing order and deliveries)
  - Customer and designers (Managing common design)
  - “Asset providers” (Material, Tools etc.)
  - Logistic companies (Transportation)

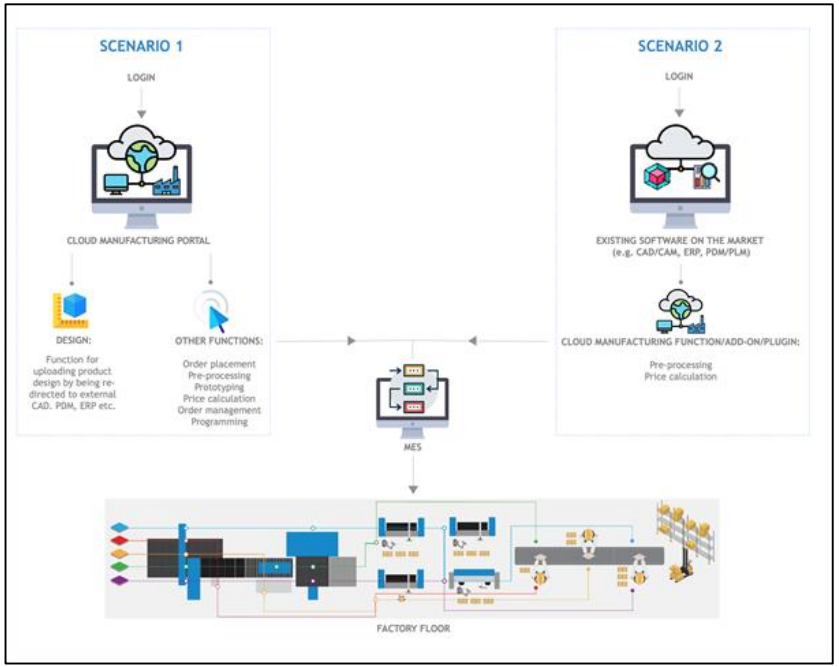
How is this managed, Single “master” software , Many badly integrated software, Will there be platform providers ?

Examples 8: Platforms and Ecosystems



Examples 8: Platforms and Ecosystems

- At this moment there is not single platform provider and maybe newer will be
- We must be prepared for different scenarios



What to do and what not to do

Advice 1: Do not go technology as front

- Engineers are eager to go technology in front
- First some interesting exist technology , but how to use it
- “We want to do something with Amazon or some AI tool”

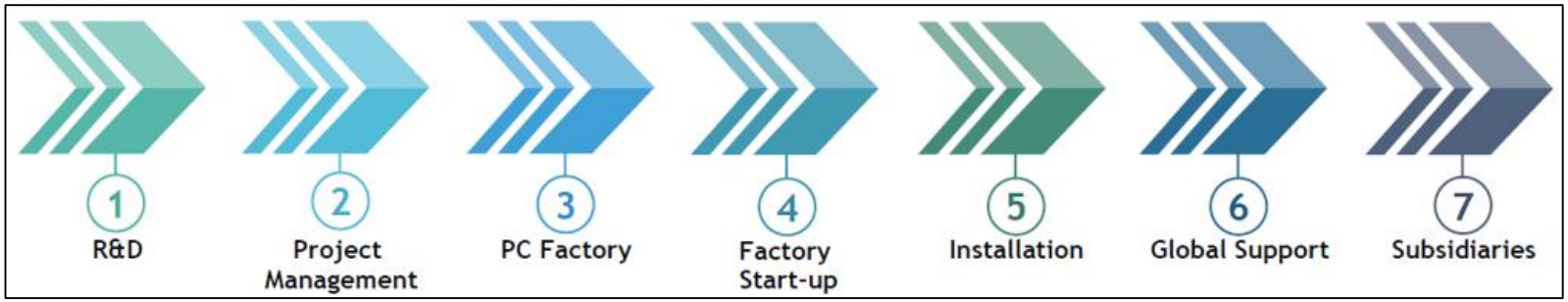
Problem to be solved or advantage to be gained must be first then look about technology to solve problem

Concept of “Value hacking”

What to do and what not to do

Advice 2: Is outcome Product or Process which requires coordinated operations across organisational units ?

- If outcome of AI project is ex. Software in web. Risk to fail is small
- If outcome of AI project is service where many organisation even in different countries must be aligned risk for failing is big.

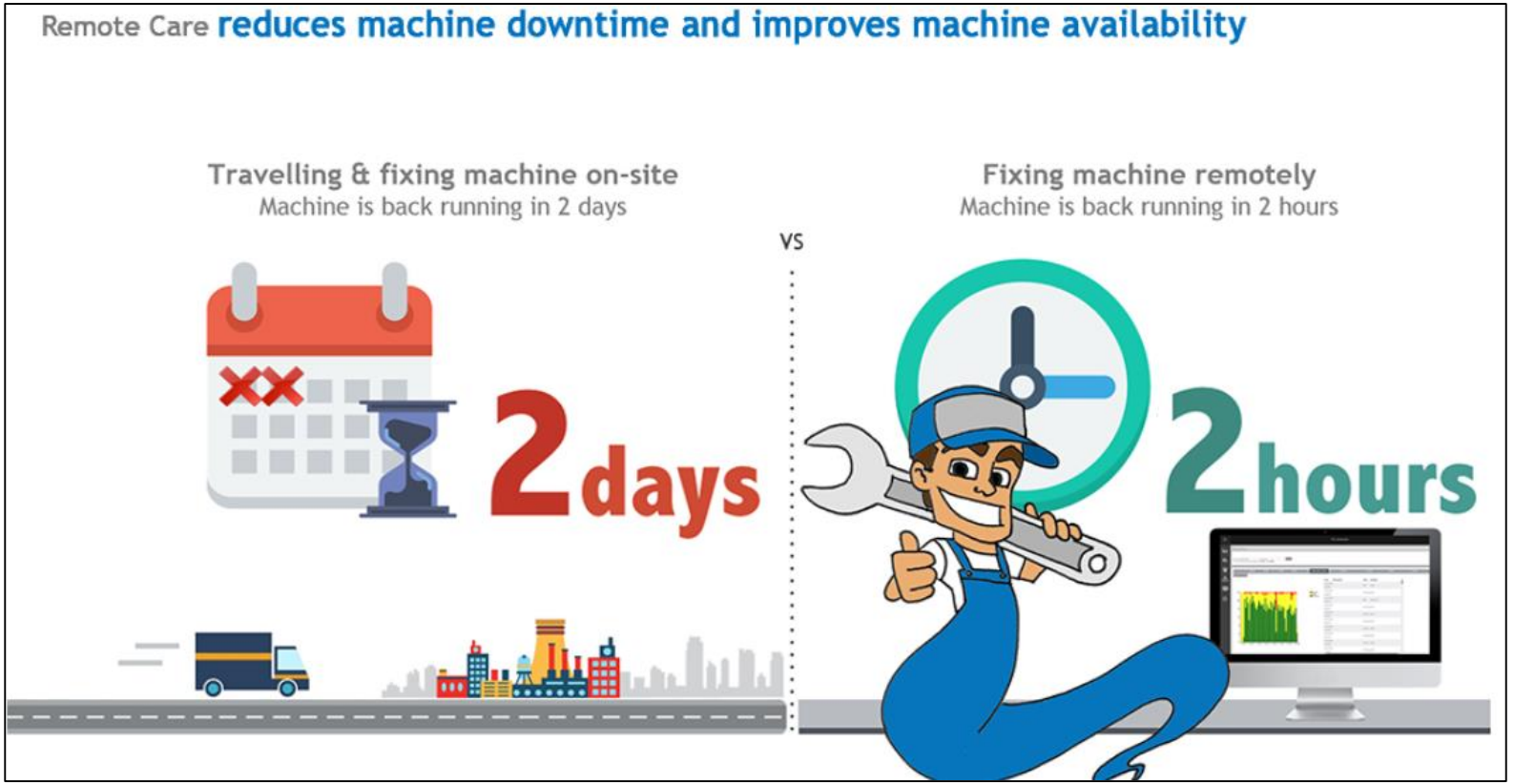


What to do and what not to do

Advice 3: Do not underestimate internal and external communication

- Many AI products are “Soft” Products and “intangible”
- Do everybody internally understand Product content and benefits
- Solution user conceptual designers in visualization, this is also differentiator

What to do and what not to do



What to do and what not to do

Advice 4: This is not hobby and short time project

- Data intensive products needs always to be further improvement.
- Requires sometimes years to be really good
- Only excellent products will be successful
- Not job for summer trainer or person as “Side” job

Summary

Do not hesitate to start

Use Experts in the beginning to avoid mistakes

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WWW.PRIMAPOWER.COM