

Finding a starting point for adopting AI in industry

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Research



Development



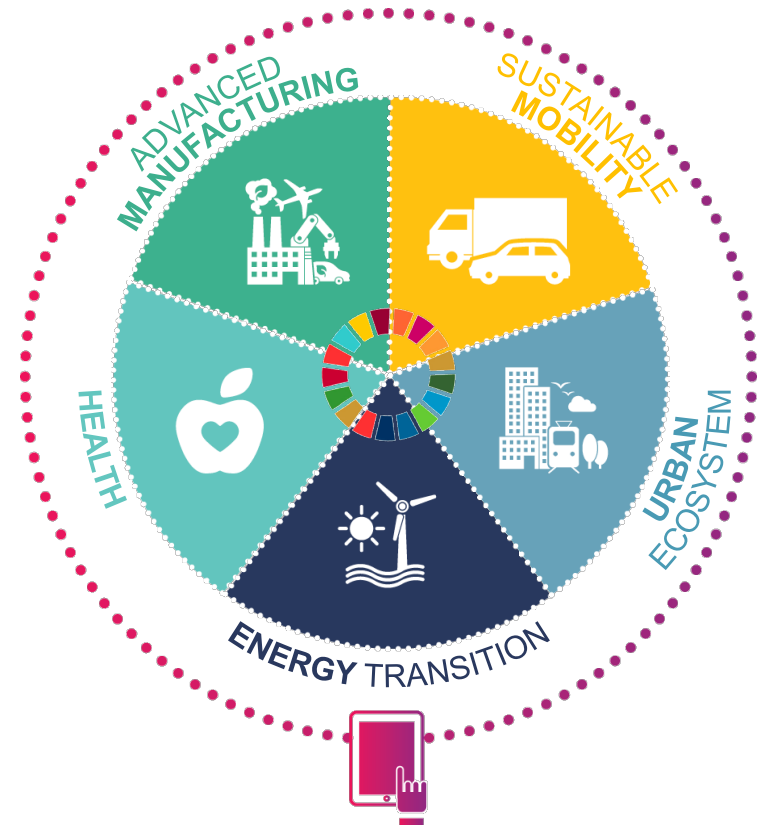
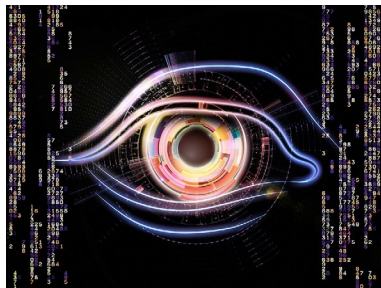
Involvement with you



1,472



267 PhDs



DIGITAL TRANSFORMATION

Computer Vision

by tecnalia

Top 3 challenges to AI/ML adoption

Sum of 1 to 3 rank

Enterprise maturity



Fear of unknown



Finding a starting point



Vendor strategy



gartner.com/SmarterWithGartner

Understand the technology & the capabilities



- Basic fundamentals
- When make sense to apply it
- When can be applied in a short period of time (Data available?)

Limits



- Understand the implications and limits for its implementation in terms of effort and investment.

Use Case Definition



- Business KPIs, measure the outcome and results.

Quantity, quality and accessibility of data. Time and Cost of gathering required data.

Quantity



- Lots of data but unbalanced
- Not cover variability.

Quality



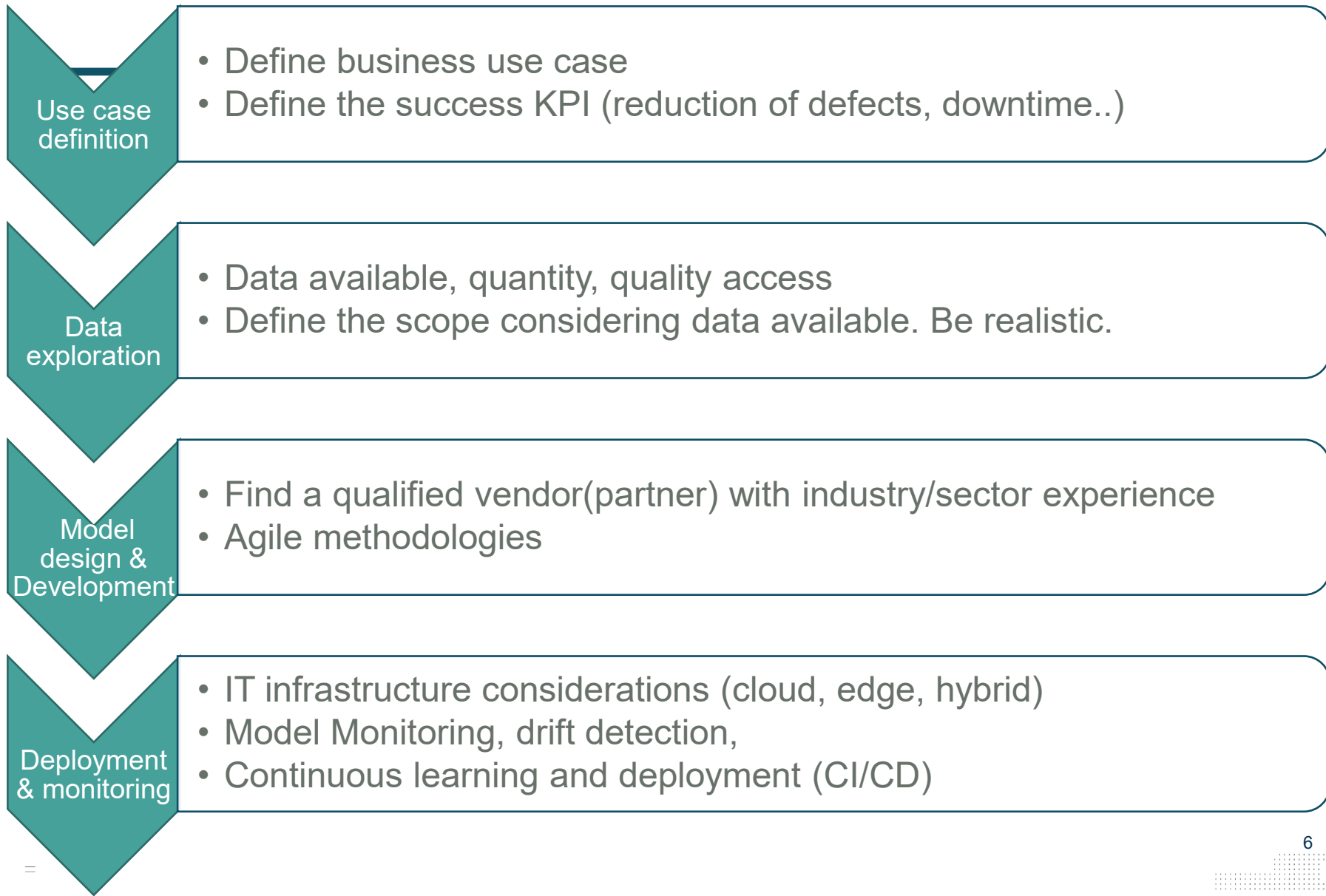
- Data cleaning.

Access

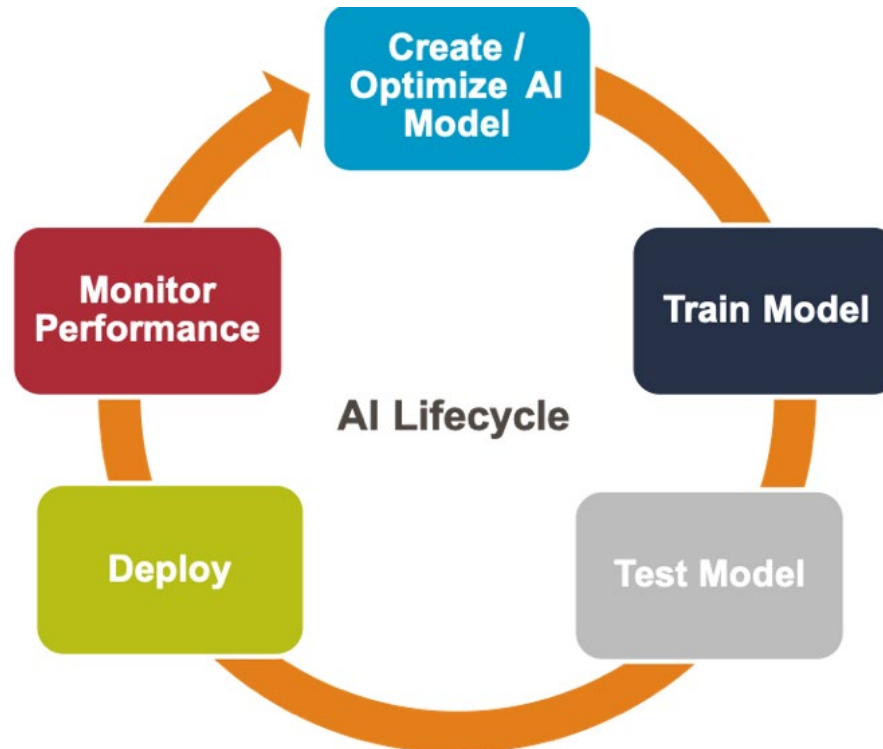


- IT infrastructures have been built and have grown as needed.
- Access to data is complex and time consuming. Starting point -> locate and design the model data.

Roadmap for adopting AI in industry: some starting tips



Life-cycle of AI model



“The only constant in life is change.”- Heraclitus

MOTIVATION

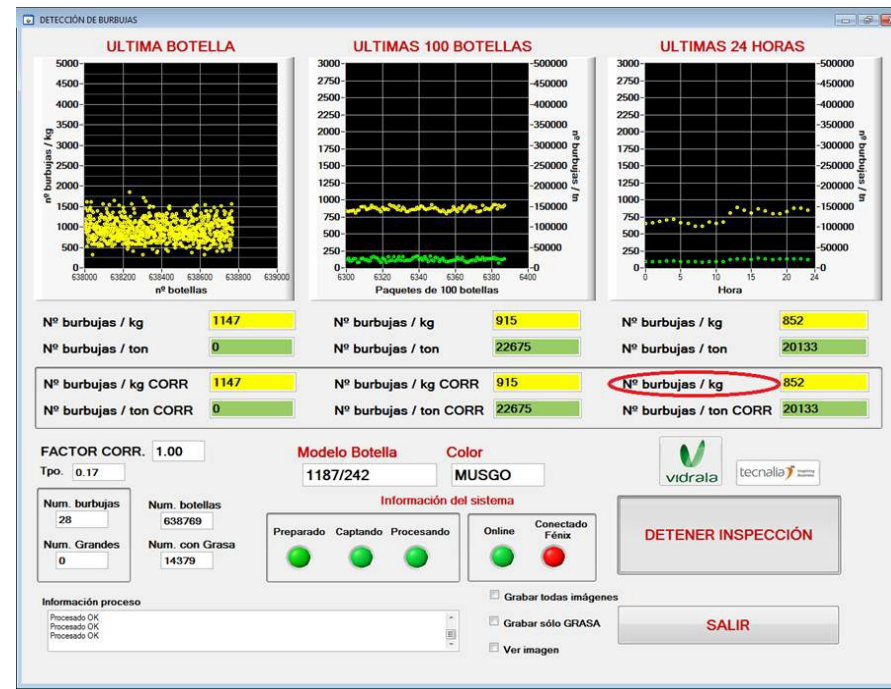
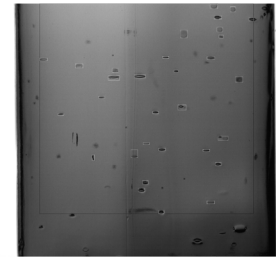
Reduce energy consumption by means of bubble detection and counting in the glass container production, which allows to regulate the furnace.

Challenges:

- Real time: 250 bot/min at 50 m/min.
- 100% production is inspected
- Variability: size, shape, color and glass thickness.

Starting Point:

- Machine vision system installed.
- Image processing algorithm for bubble detection
- Good Performance however false positives may appear due to grease stains





vidrala

Use case definition

- Detect in real time for 100% production the bubbles in the glass bottles.
- KPI (Reduce energy consumption, reduction of waste)

Data exploration

- Vision system installed, data available in quantity and quality
- Variability in terms of size and color of the bottles.

Model design & Development

- Deep learning classification model (Reduction of up to 90% false positives)
- Agile methodologies

Deployment & monitoring

- Local Deployment at this moment in two locations
- Basic Monitoring is already implemented
- Drift model detection is foreseen as next step
- Continuous learning and deployment (CI/CD) is foreseen as next step

MOTIVATION

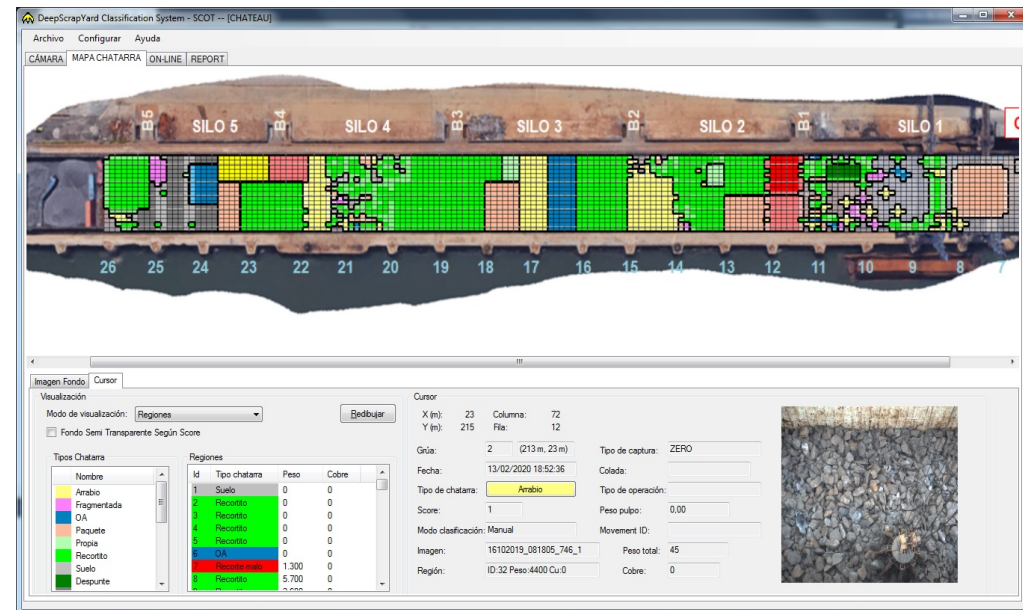
Improve steel quality by optimising the melting and casting process by scrap type characterisation in the yard

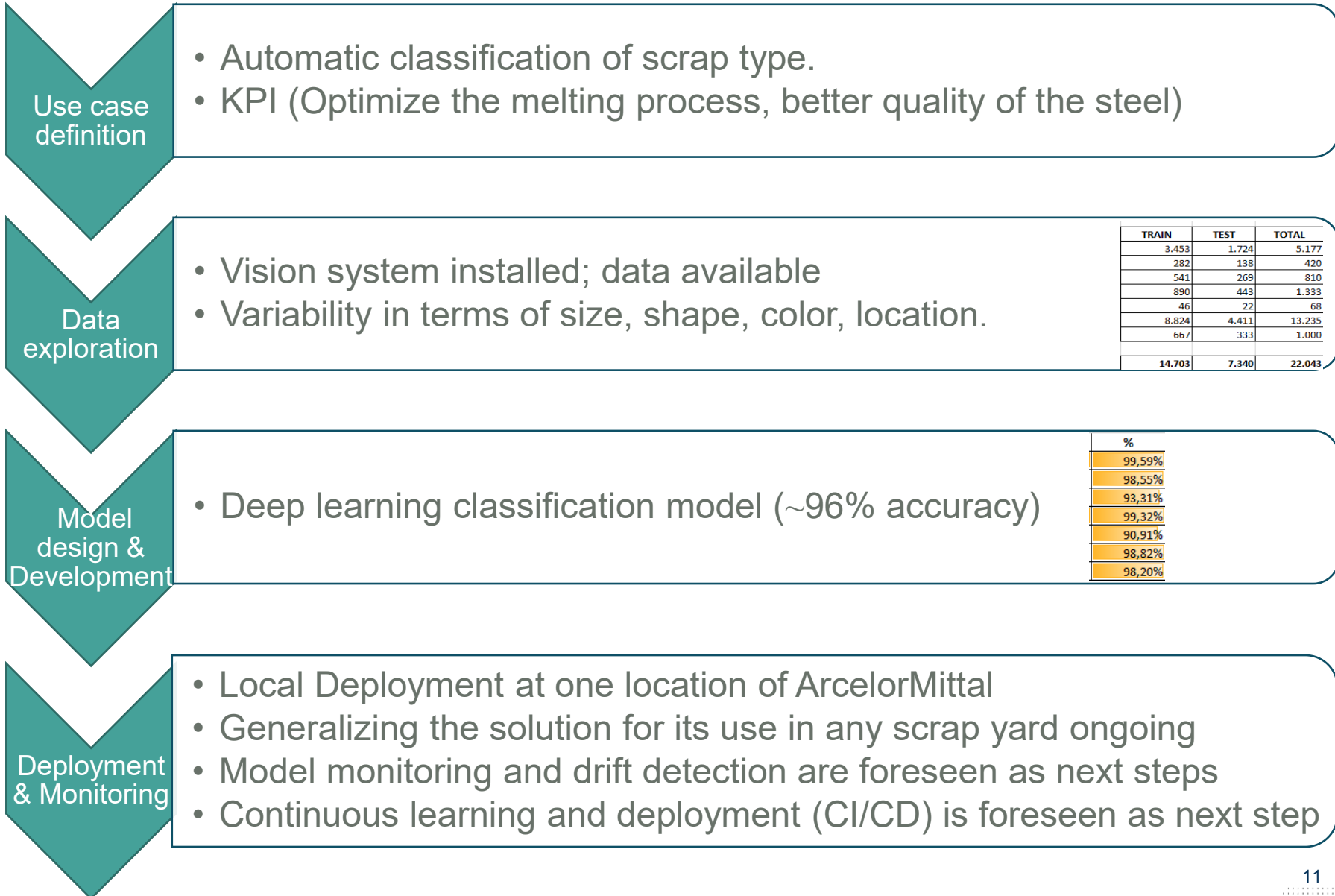
Challenges:

- Real time information of scrap type in the yard
- Variability: Locations, types of scraps

Starting Point:

- Machine vision system consisting of a set of RGB cameras installed in the cranes that move the scrap.





ESKERRIK ASKO

GRACIAS

THANK YOU

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