

Thomas Bjarsch, 27.11.25

HybridDigital: Using FAIR Data for Predictions and Part Traceability

Challenge

Approach

Solution

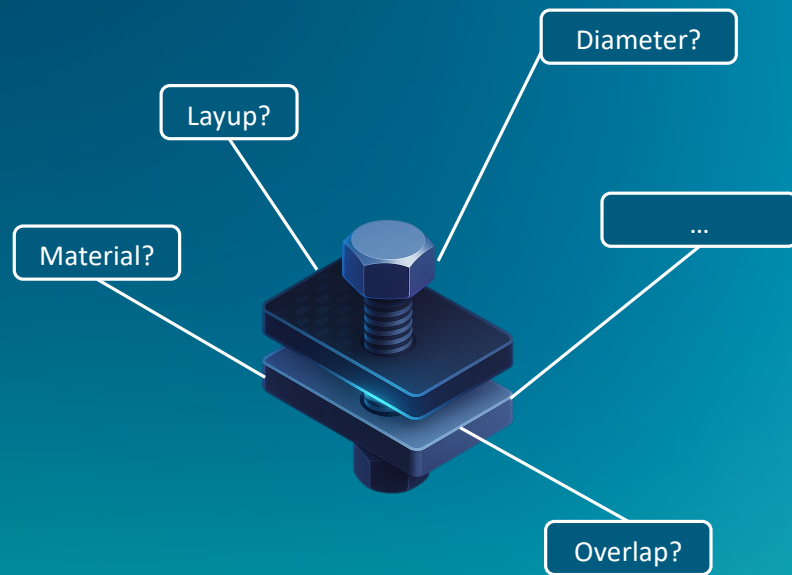
Outlook

Challenge

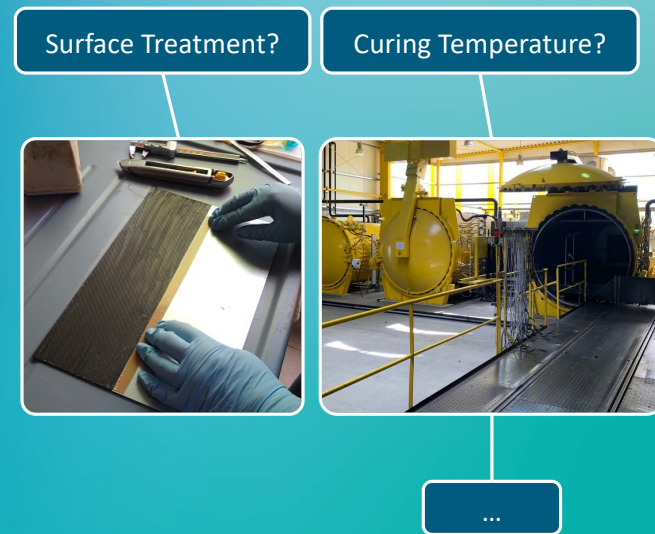
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Complex Engineering and Construction



Complex Manufacturing



Digital Part
Record



What was the
surface
preparation of X?

Anomaly
Detection



Why have A,B,C a
higher tensile
strength than X,Y,Z?

Correlation-
Analysis



Which factors are
affected if I change
the bolt diameter?

Engineering
Assistance



Which overlap should I
use to maximize the
tensile strength?

Processing
Assistance



Which temperature
should I use for
curing?

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Use-Cases

Digital Part Record



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Raw Data



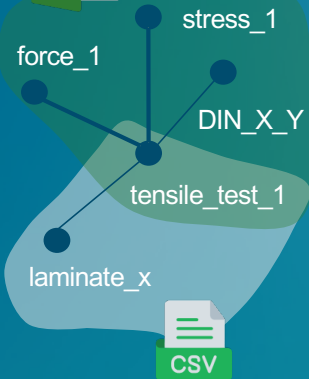
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Pipeline



Extract Content
↓
Map to Classes

FAIR Data



Statistics & Machine Learning



Use-Cases

Digital Part Record



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Pipeline



Extract
Content

Map to
Classes



Calculate
add. Infos

FAIR Data



force_1

stress_1

DIN_X_Y

tensile_test_1

laminate_x



Statistics & Machine Learning



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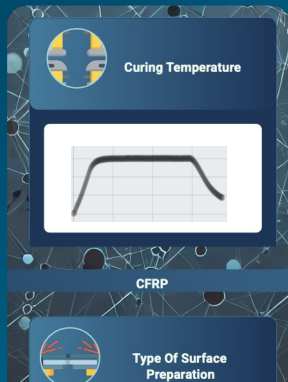


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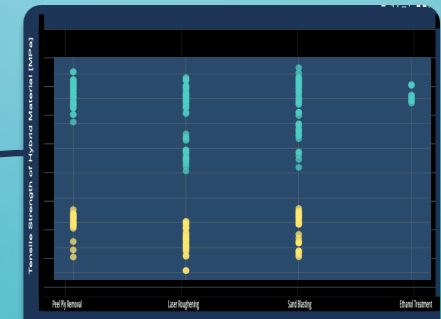
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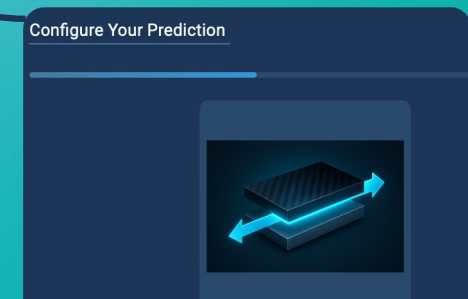
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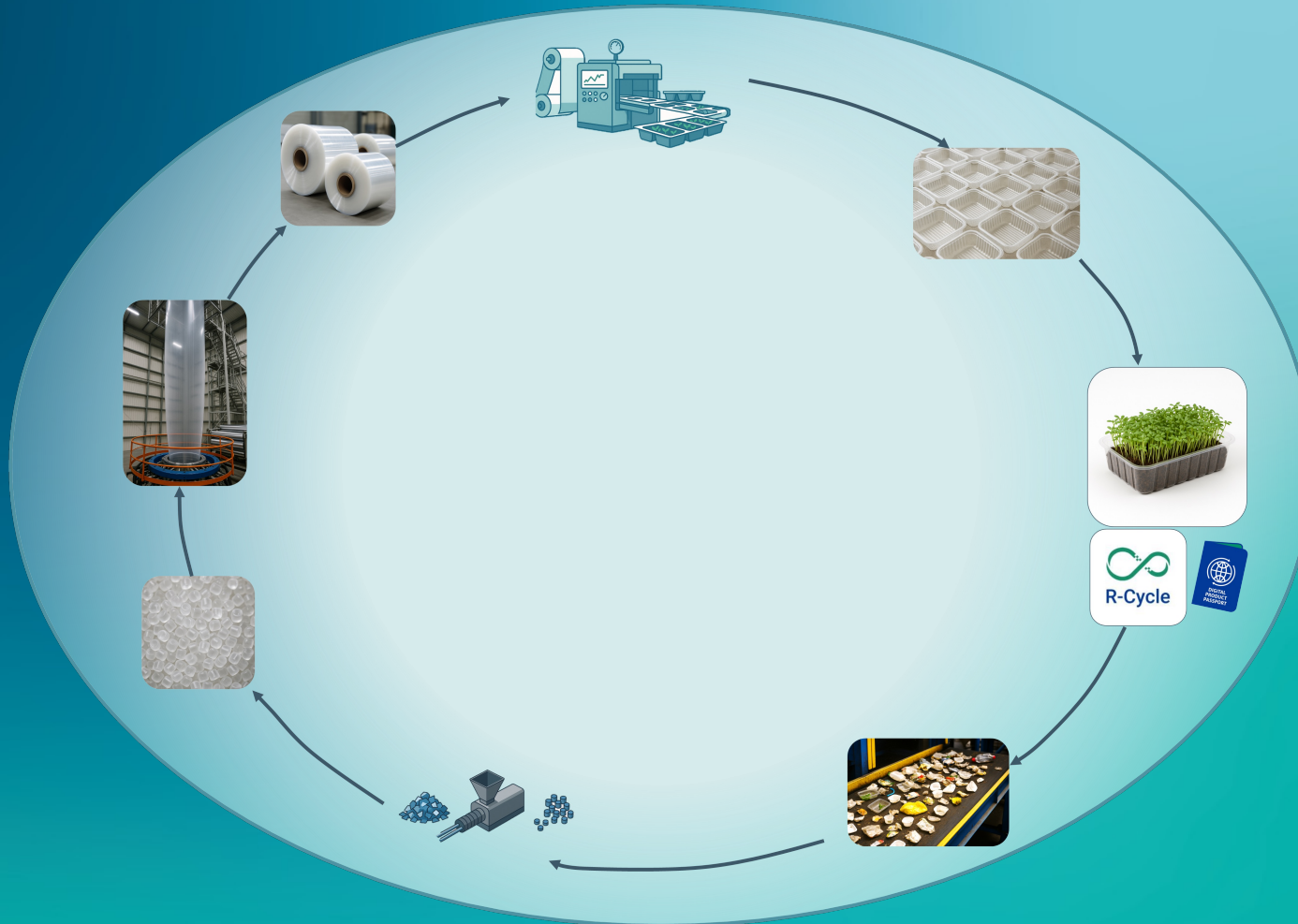
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MobiDig (MaterialDigital 3)

