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Human-centered decision-aid for dynamic activity planning in production systems

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HUMAN-CENTERED DECISION-AID

for dynamic activity planning in production systems



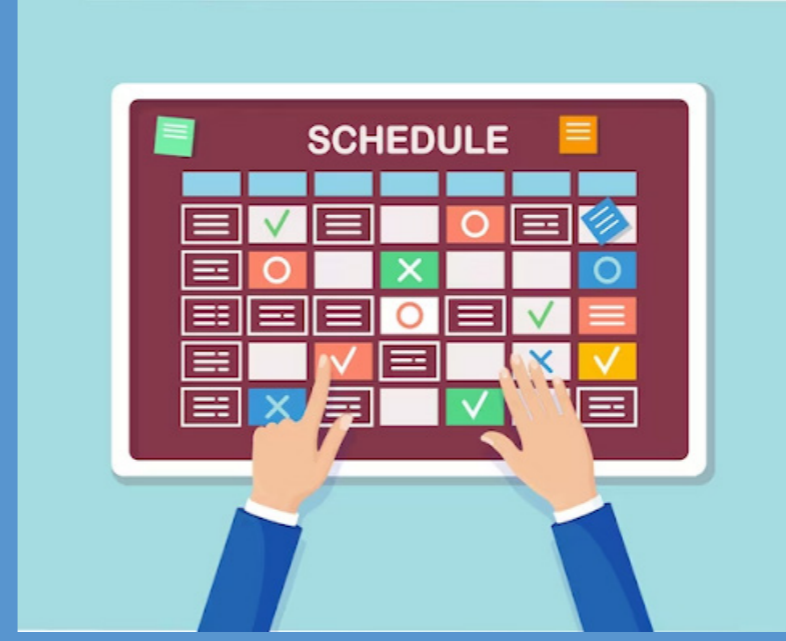
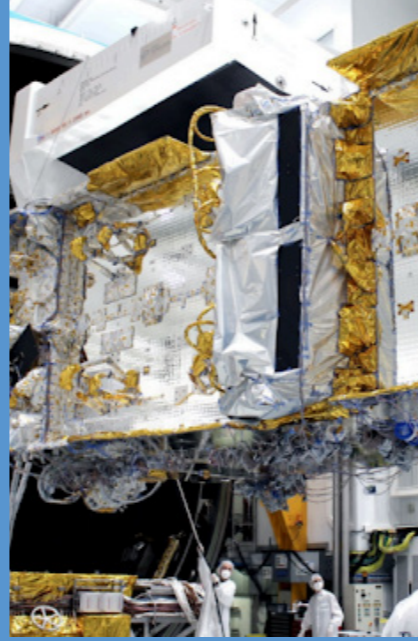
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CONTEXT

Satellite industry
DST* with expectations
Technocentrism

+ 300 000 elements
3 years of fabrication
Work and task diversity



GOAL

Reduce supervisors' stress and cognitive load

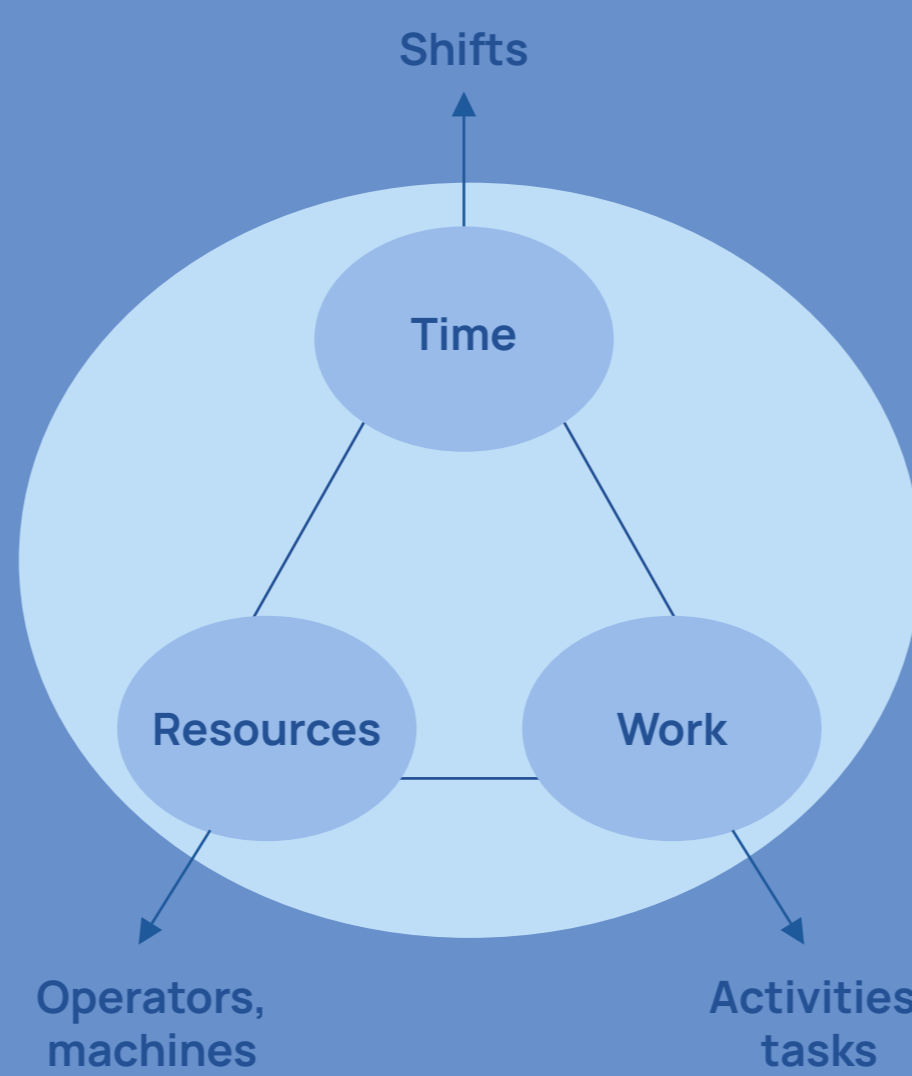


OUR PROBLEM

Dynamic employee scheduling with shifts

Specific constraints

- Tasks are not shareable
- Release dates, due dates...
- Exclusions (satellite position)



CHALLENGES



Collaboration between multiple decision-makers



Quickly propose solutions



React in real time to hazards

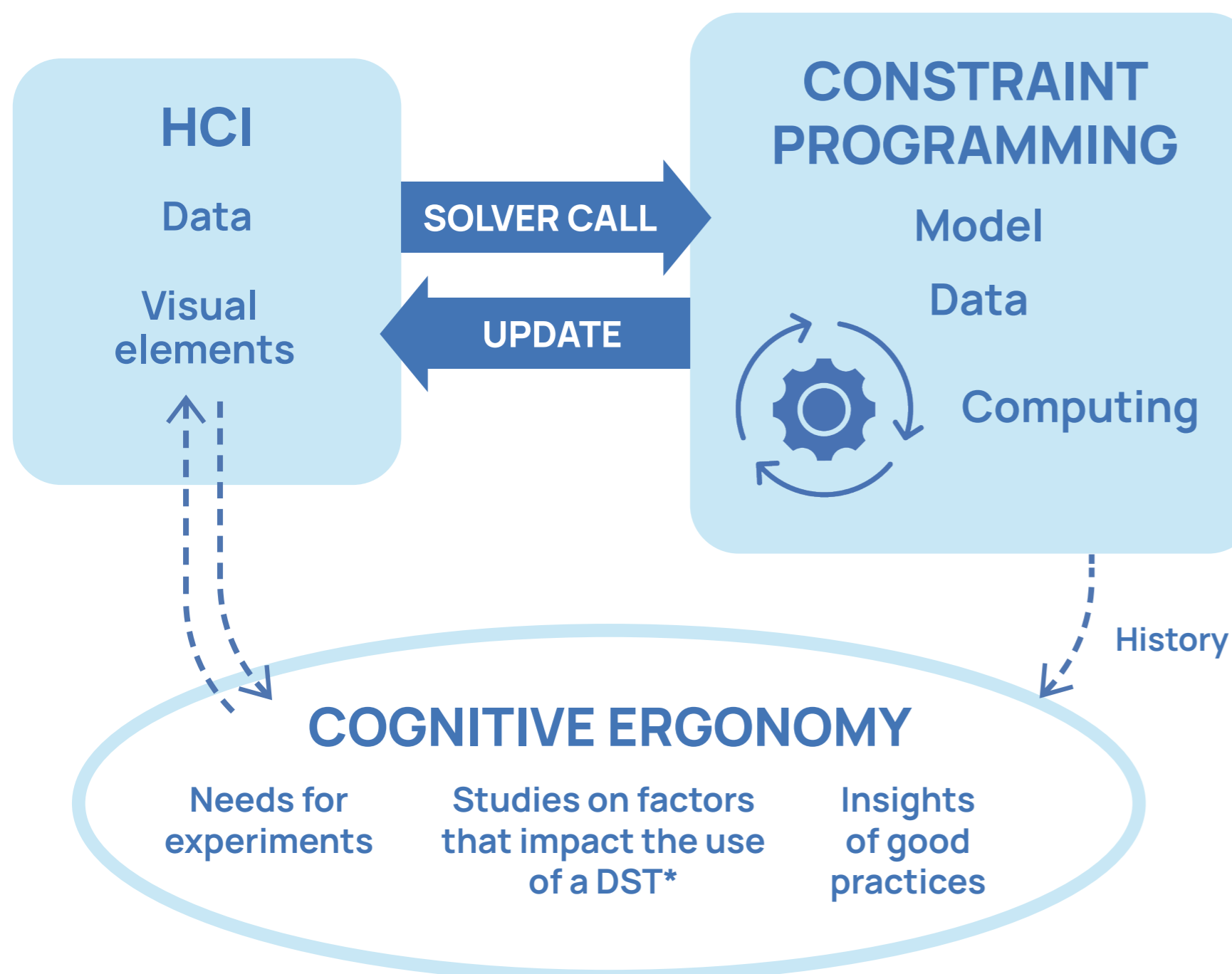


Ensure traceability of decisions

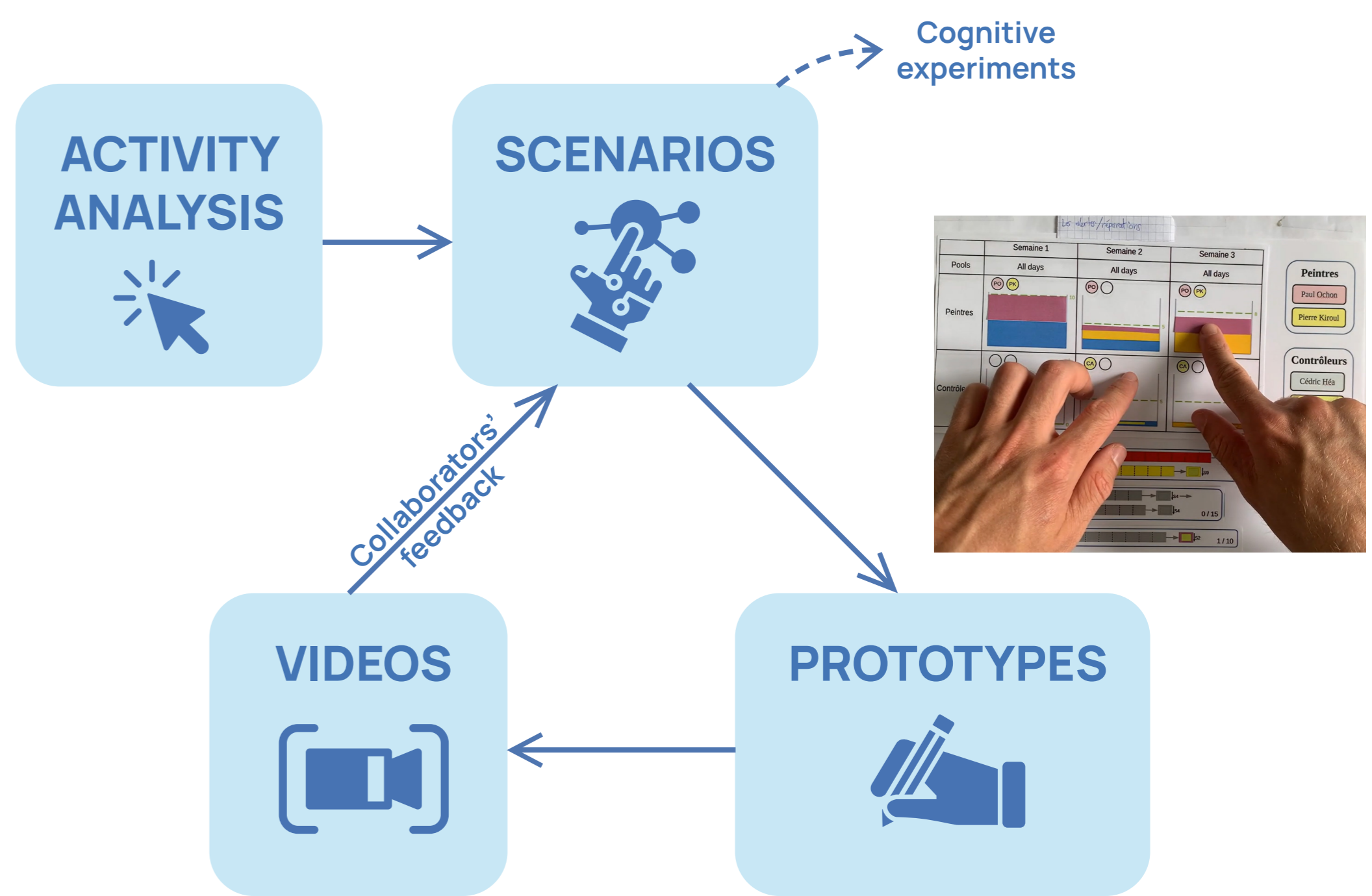


Support aggregated decisions

COMBINING THREE DOMAINS



DESIGN PROCESS



NEXT STEPS

- HCI**
- New time-evolving scenarios
 - New interaction methods for Interface transitions

OPTIMISATION

- Design a resolution method for the constraint "at most k working shifts among n shifts"
- Aggregation/disaggregation mechanisms



→ project's webpage



* DST = Decision-Support Tool