



BARINet



SARC

Value impact assessment for interdisciplinary design

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GKN AEROSPACE

SARC – BARINet Workshop
24-25 November 2022

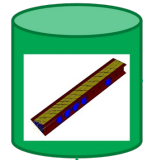
DEFAINE Project (2021-2024)



CHALMERS



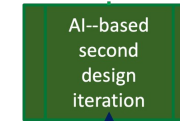
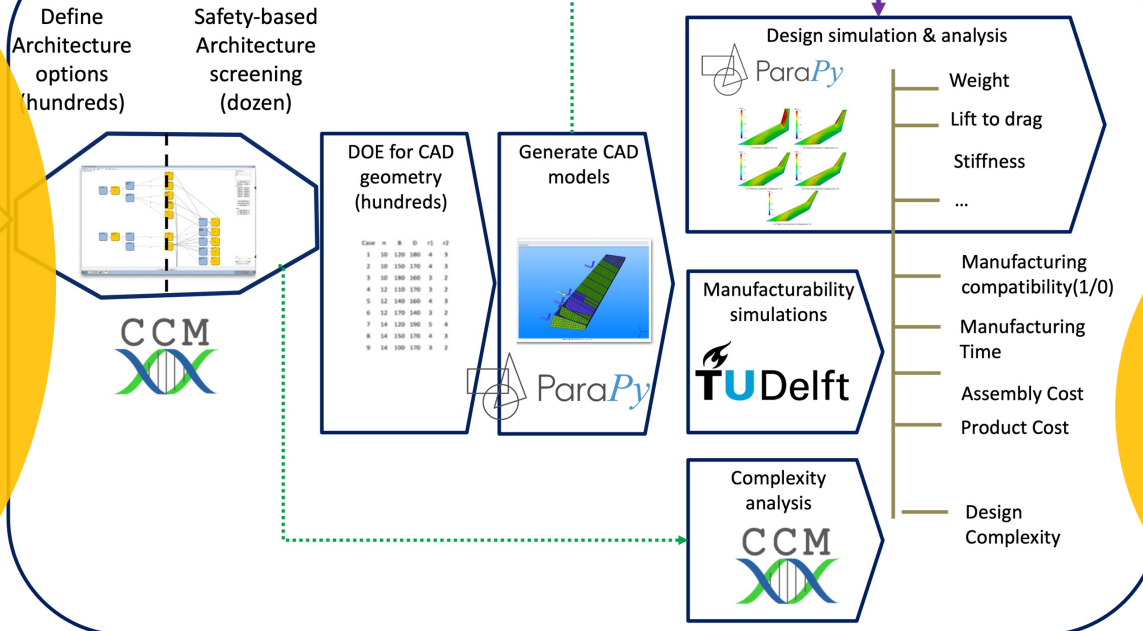
High-fidelity CAD modules libraries



New AI-suggested designs



Design space generation & analysis



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Define Value Aspects

CAPTURE VALUE ASPECTS

Decision-making

TRADE-OFF VALUE ASPECTS

CAPTURE VALUE FROM PRODUCTS

Definition. *Value is the satisfaction of stakeholders' needs*

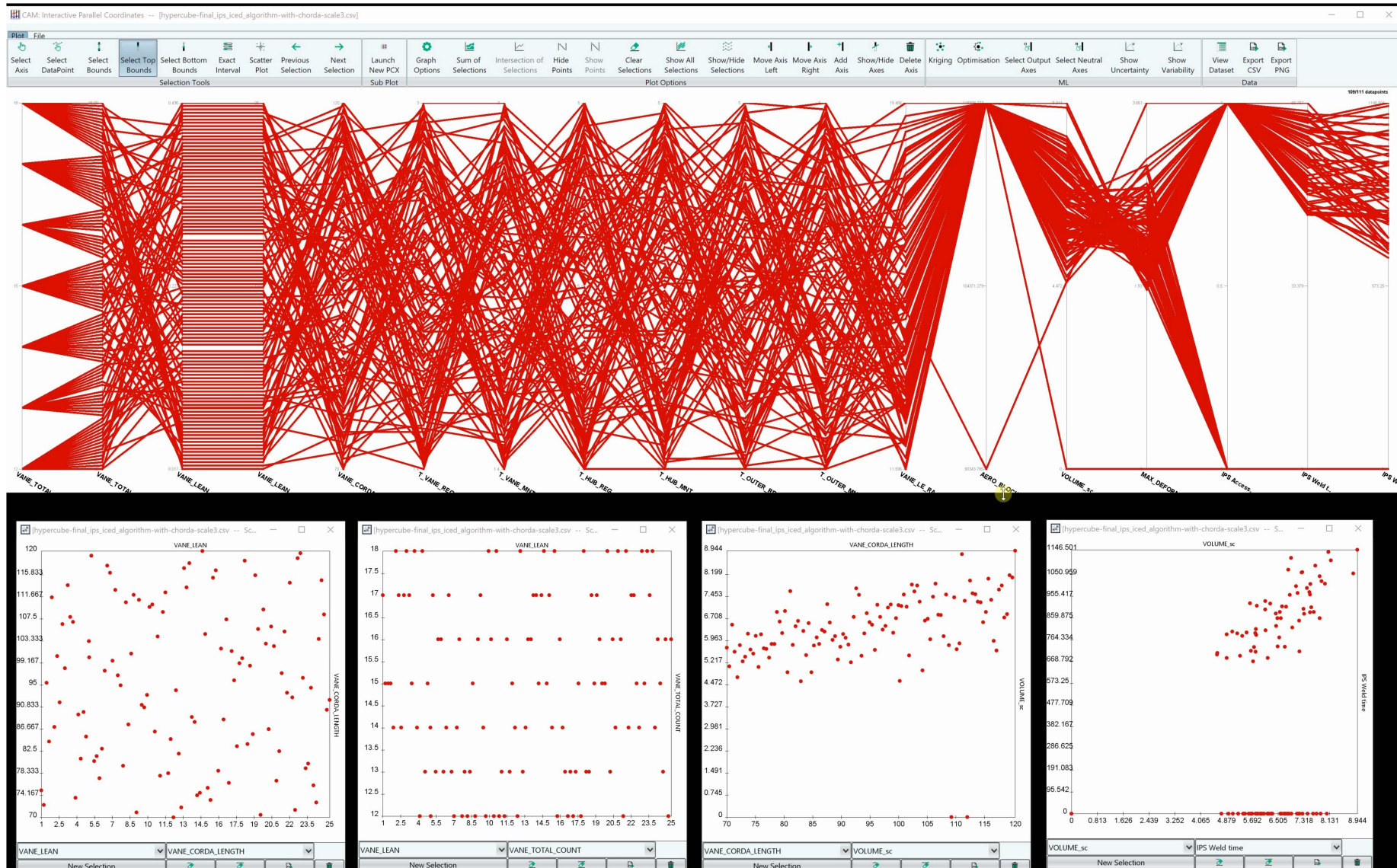
Stakeholder	Stakeholder Needs	Stakeholder Needs	Value Drivers
EU commission, society	"reduce CO2 emissions"	Reduce weight	Volume [mm ³]
		Improve aero-thermodynamic performance	Aero Blockage [mm ²]
Aircraft manufacturer	"We must ensure the same Aircraft Availability of the Aircraft XYZ"	Maintain structural integrity	Max deformation [mm]
			Stiffness
			Buckling margin
Manufacturing Team Component manufacturer	"What is the most robust configuration that can be welded with high quality using our equipment?"	Weld manufacturing performance	Weld accessibility [YES/NO]
			Weld time [sec]
			Weld Quality [RMS]
Design Team component manufacturer	The development schedule is tight and require quick design iteration loops	Reduce development risk and time	Resilience [#]
			Development Lead Time [#]

as expressed by the stakeholders (different granularity or detail).

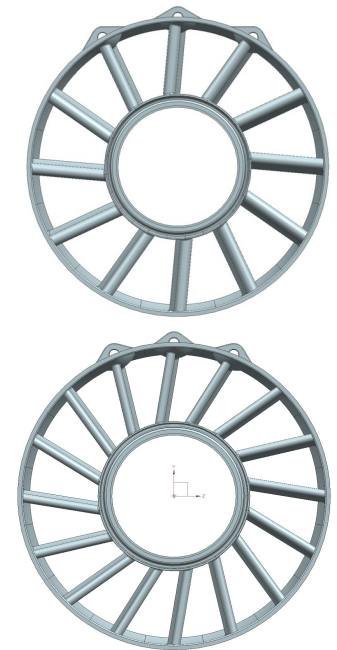
What engineering aspects impact this need - that you can control during design?

Stakeholder Needs are high-level statements of problems that need to be solved

TRADE-OFF VALUE ASPECTS



Different:
Lean angles
of vanes
Thicknesses



CONCLUSION

CAPTURE
VALUE
ASPECTS

Definition. *Value is the satisfaction of the stakeholders' needs*

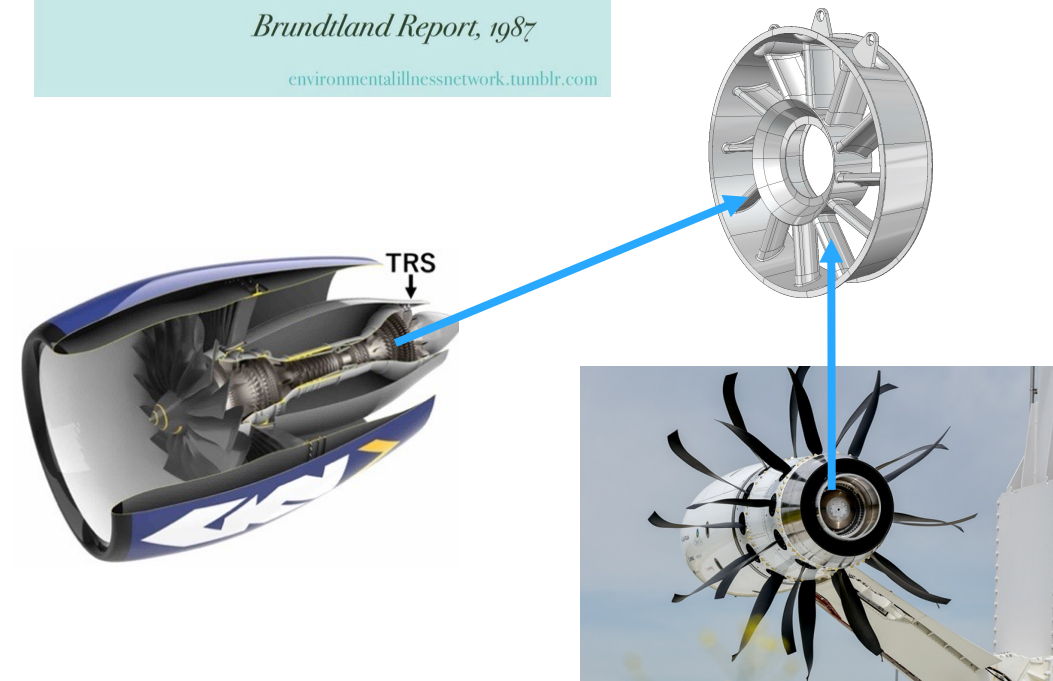
TRADE-OFF
VALUE
ASPECTS

Ability to assess impact to value across multiple stakeholders

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Brundtland Report, 1987

environmentalillnessnetwork.tumblr.com



Thank you!!!

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