

OpenLEGO demonstration

A link between AGILE and OpenMDAO

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Session: Link CMDOWS to OpenMDAO

13th of October 2017, 10:00-10:30h

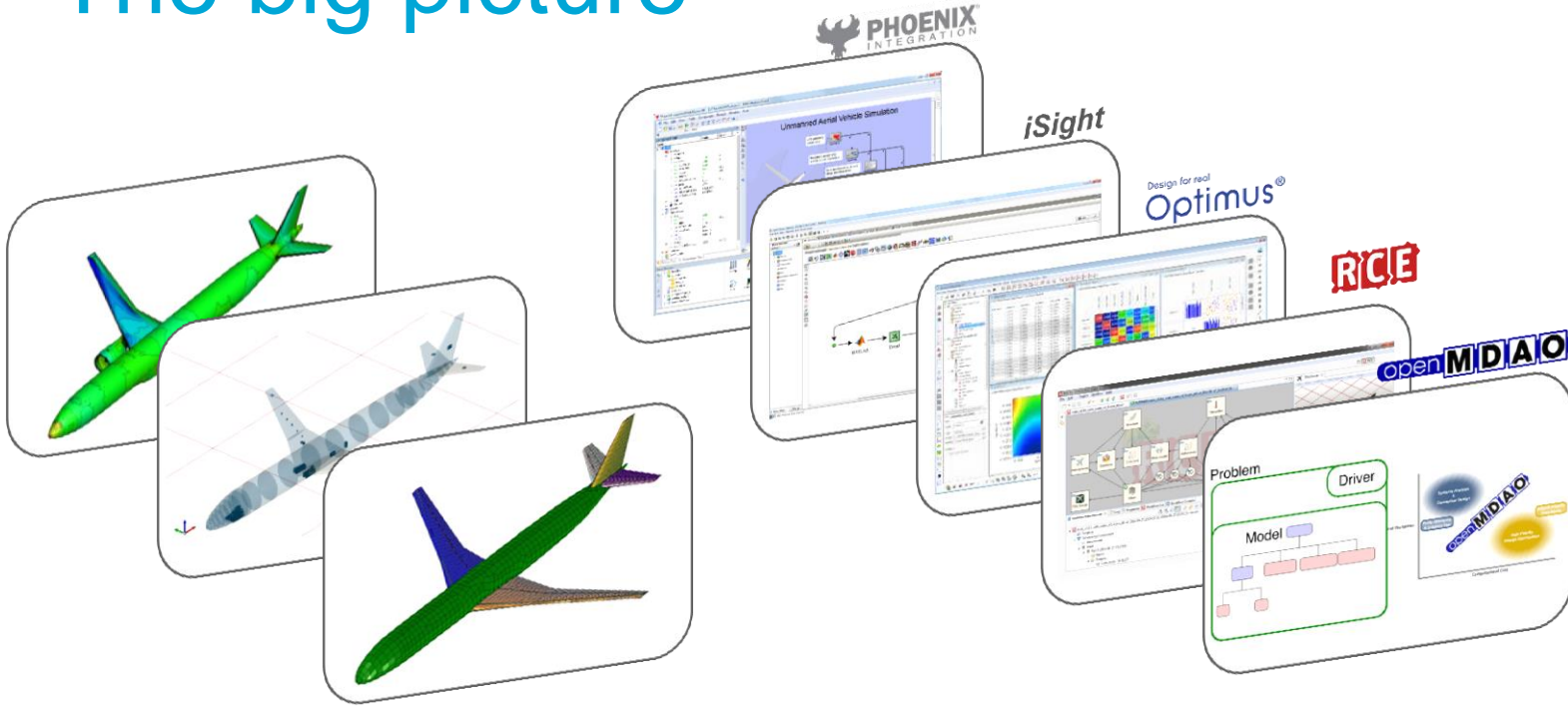
First European OpenMDAO Workshop
12-13 October 2017, Toulouse, France



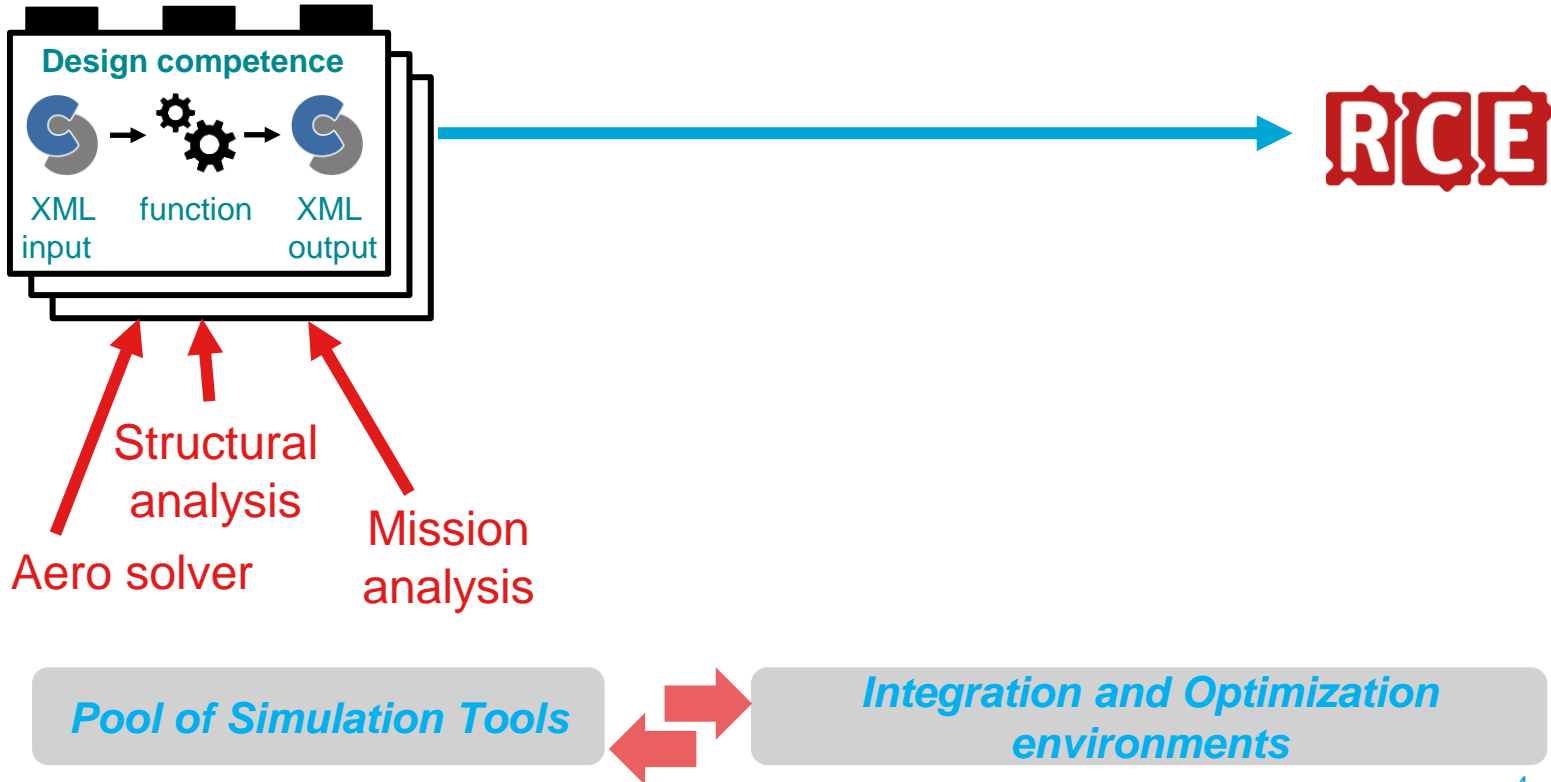
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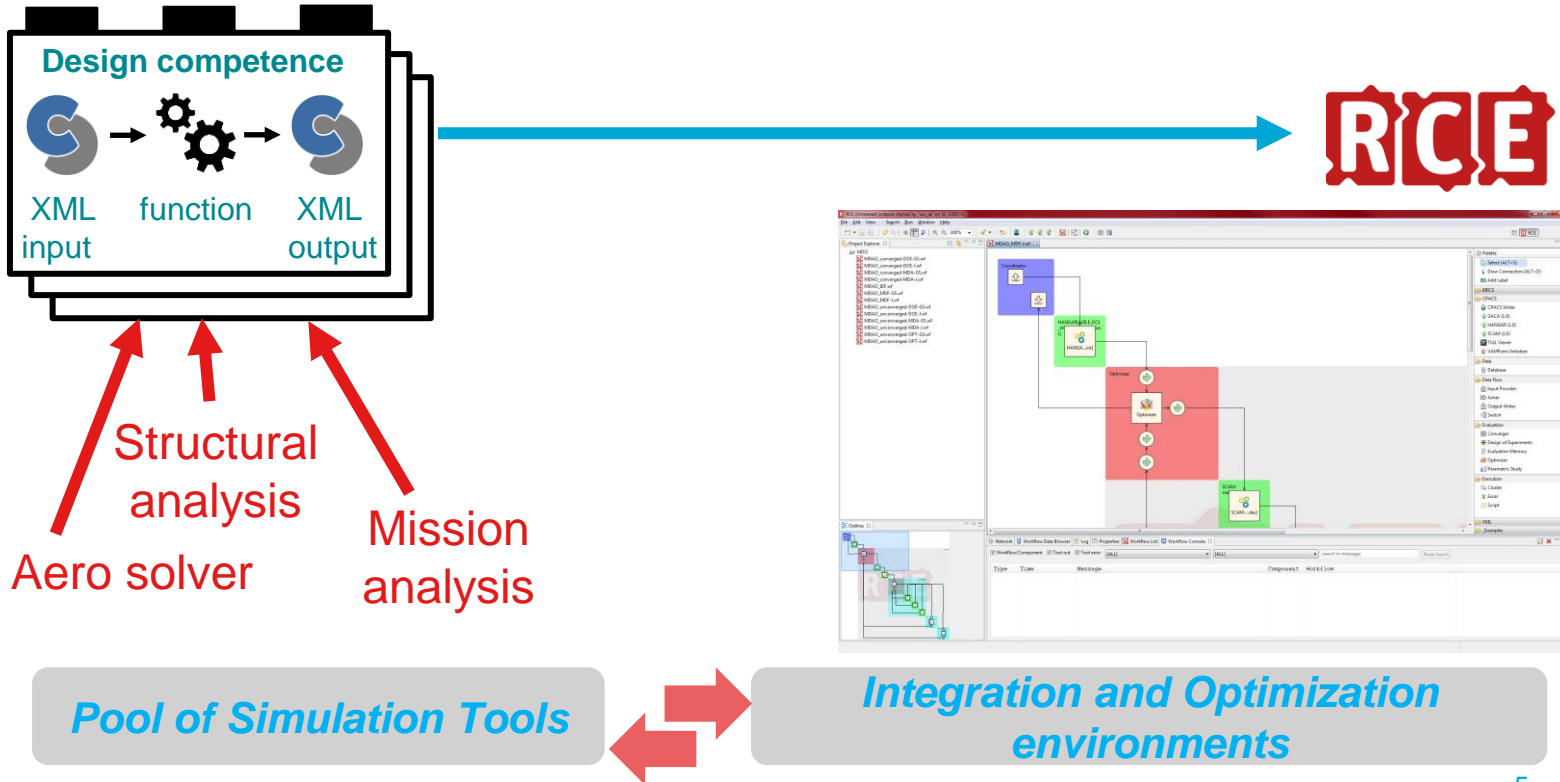
The big picture



The big picture



The big picture



The big picture

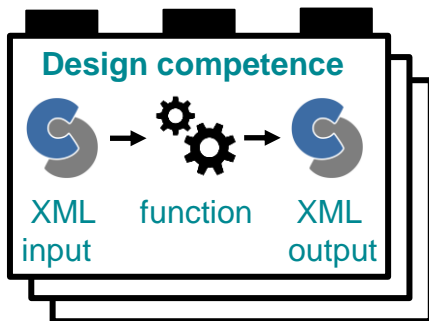


Instead of making **running** optimizations cheap and easy,

we want to:

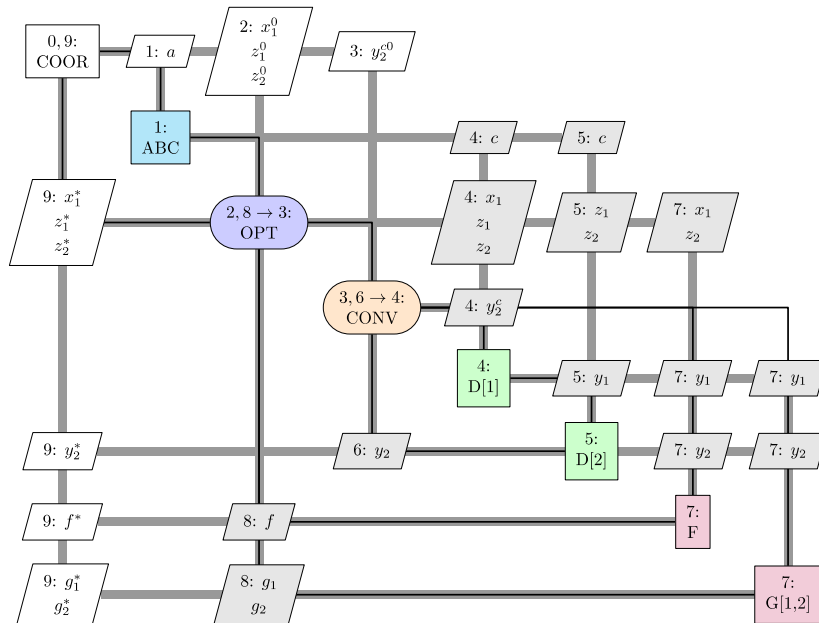
make **setting up** collaborative optimizations cheap and easy.

The big picture

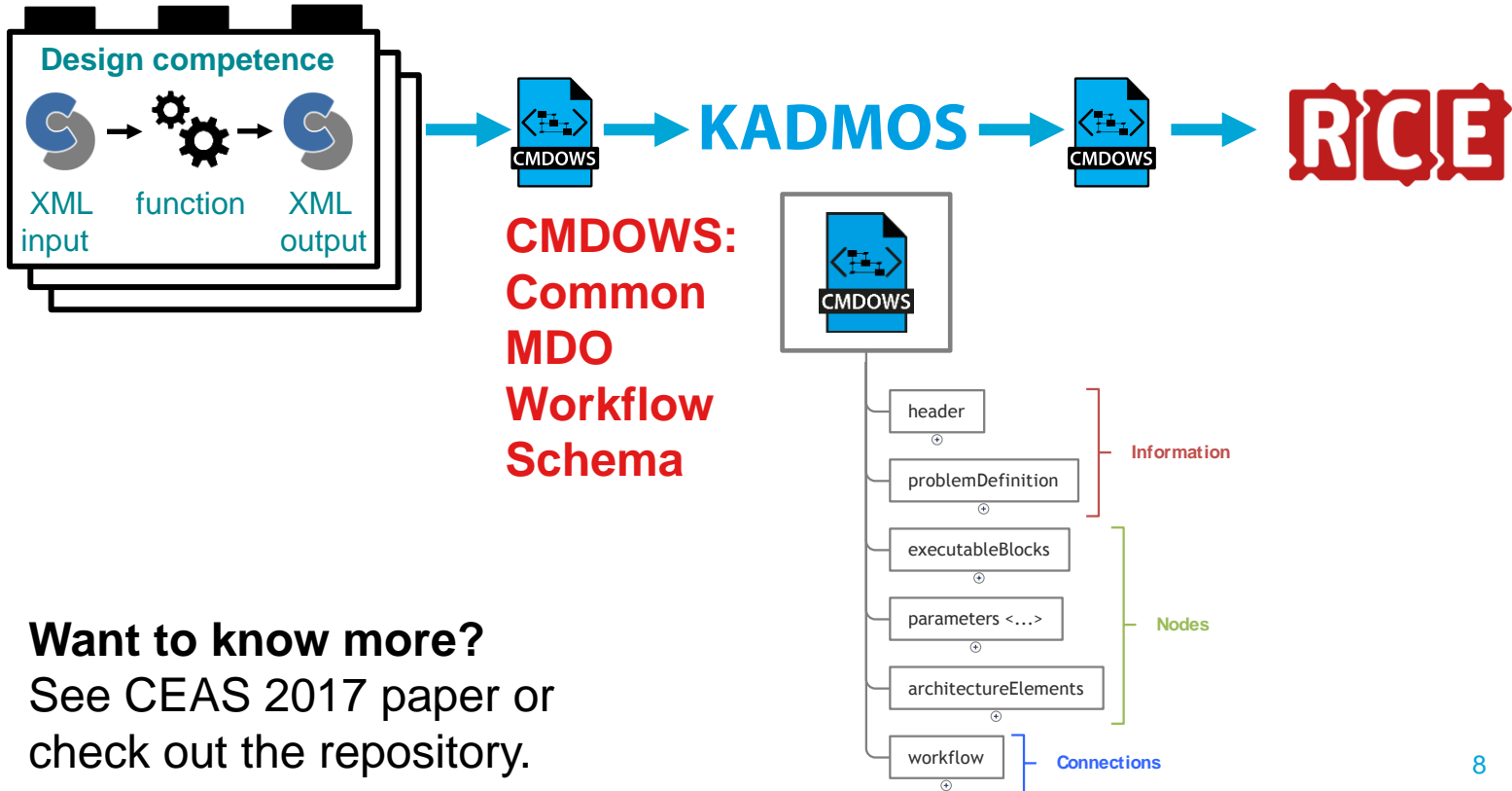


KADMOS

RCE



The big picture



Want to know more?
See CEAS 2017 paper or
check out the repository.

The big picture



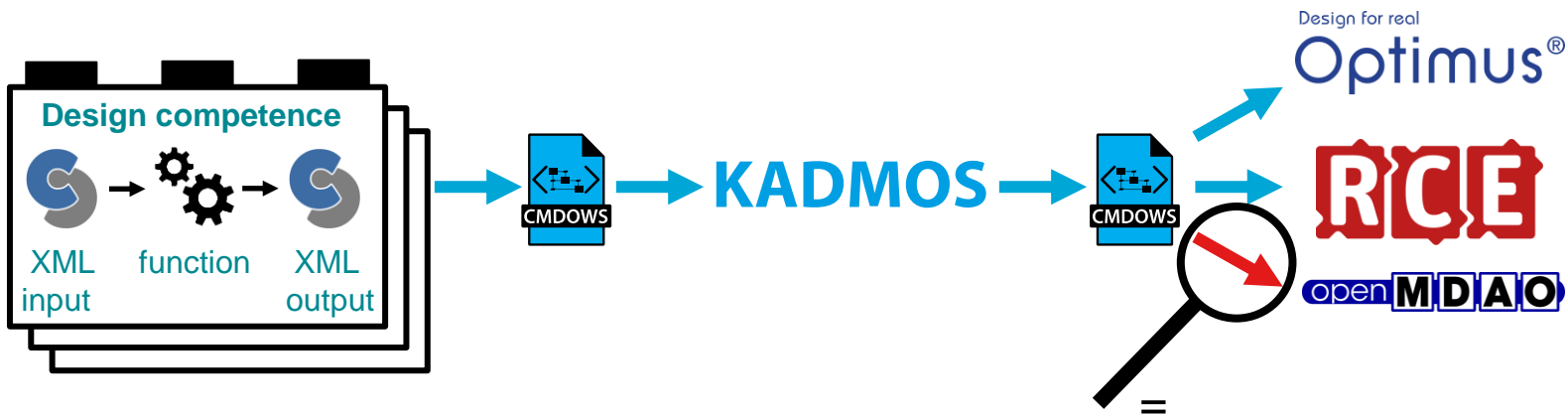
The big picture



The big picture



The big picture



Made by
Daniël de Vries

OpenLEGO
(Open-source Link
between AGILE and
OpenMDAO)

Demo time!



▼ seller_OpenMDAO_workshop

__init__.py

D1.py

D2.py

D3.py

D4.py

F1.py

F2.py

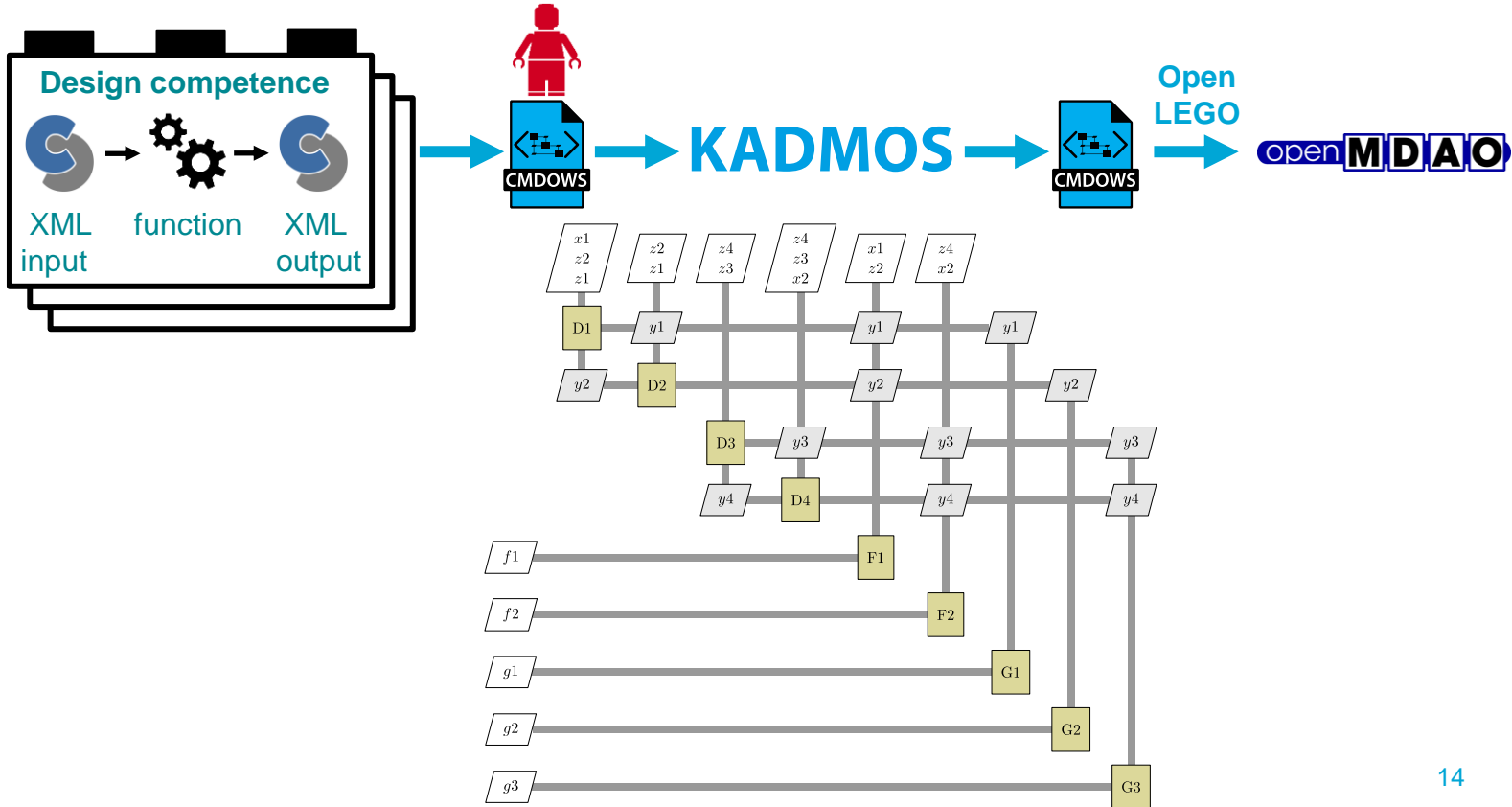
G1.py

G2.py

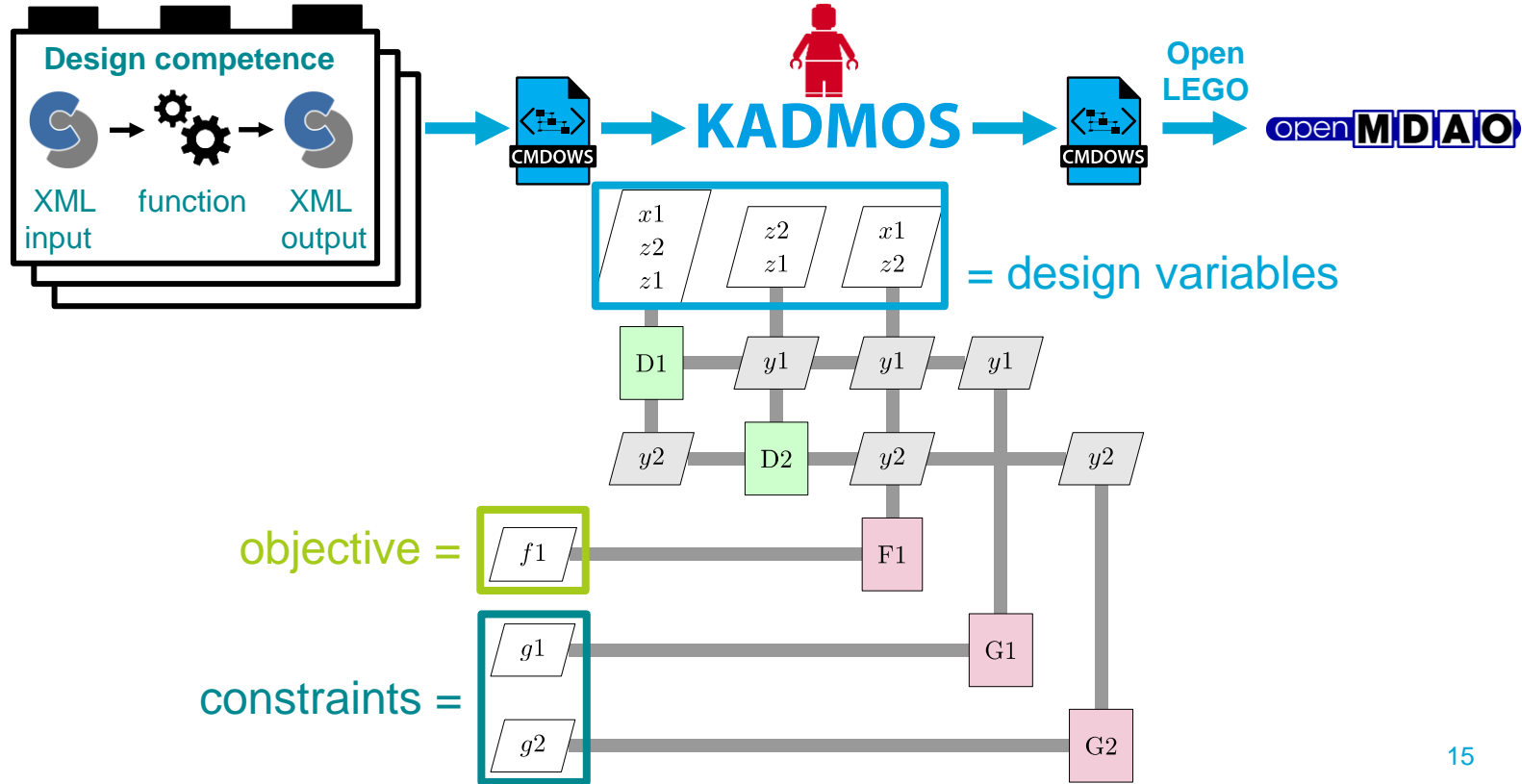
G3.py

seller.xsd

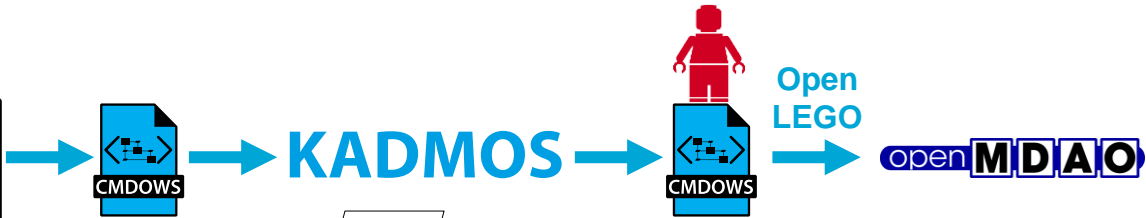
Demo time!



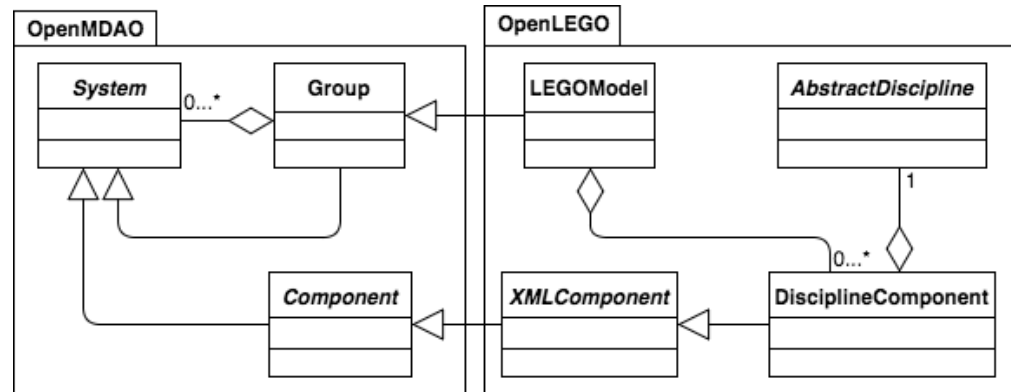
Demo time!



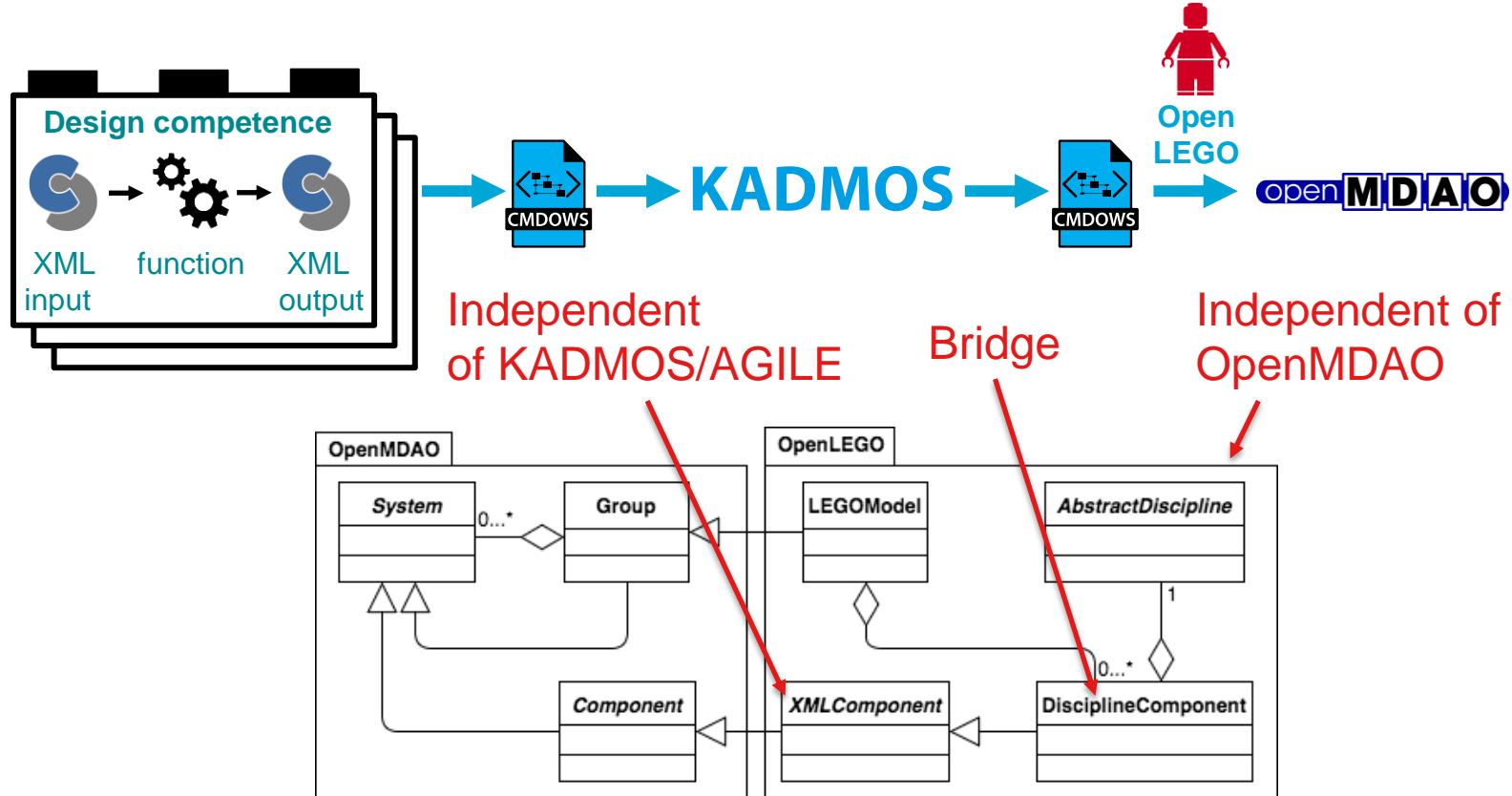
The diagram illustrates the process of Design competence. It features a central box with a thick black border. Inside the box, the text "Design competence" is written in a teal, sans-serif font at the top. Below this text, a process flow is shown: a blue circular icon with a white 'C' shape (representing XML input) is followed by a right-pointing arrow, then two interlocking black gears (representing a function), followed by another right-pointing arrow, and finally a second blue circular icon with a white 'C' shape (representing XML output). Below each icon and the gears, the corresponding labels "XML input", "function", and "XML output" are written in a teal, sans-serif font. The entire diagram is set against a background of three overlapping white rectangles with black borders, suggesting a layered or modular structure.



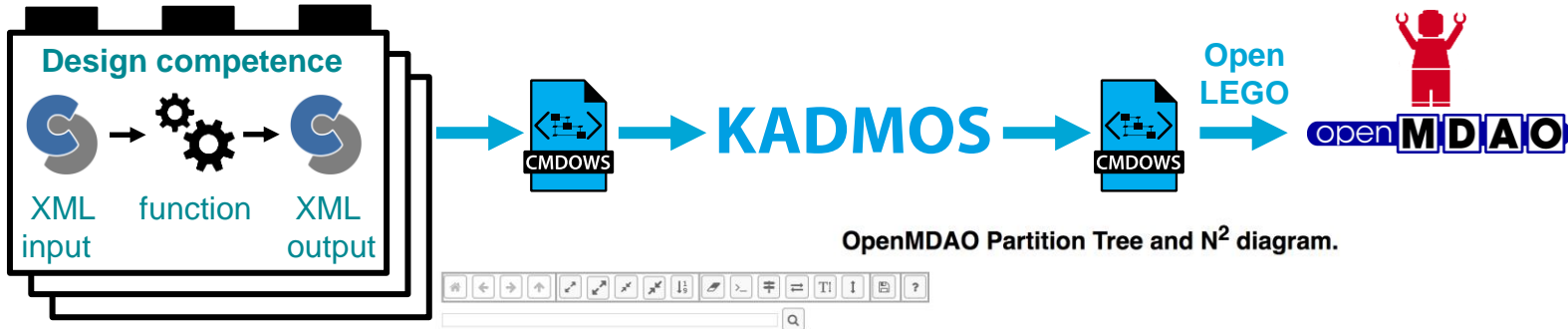
Demo time!



Demo time!



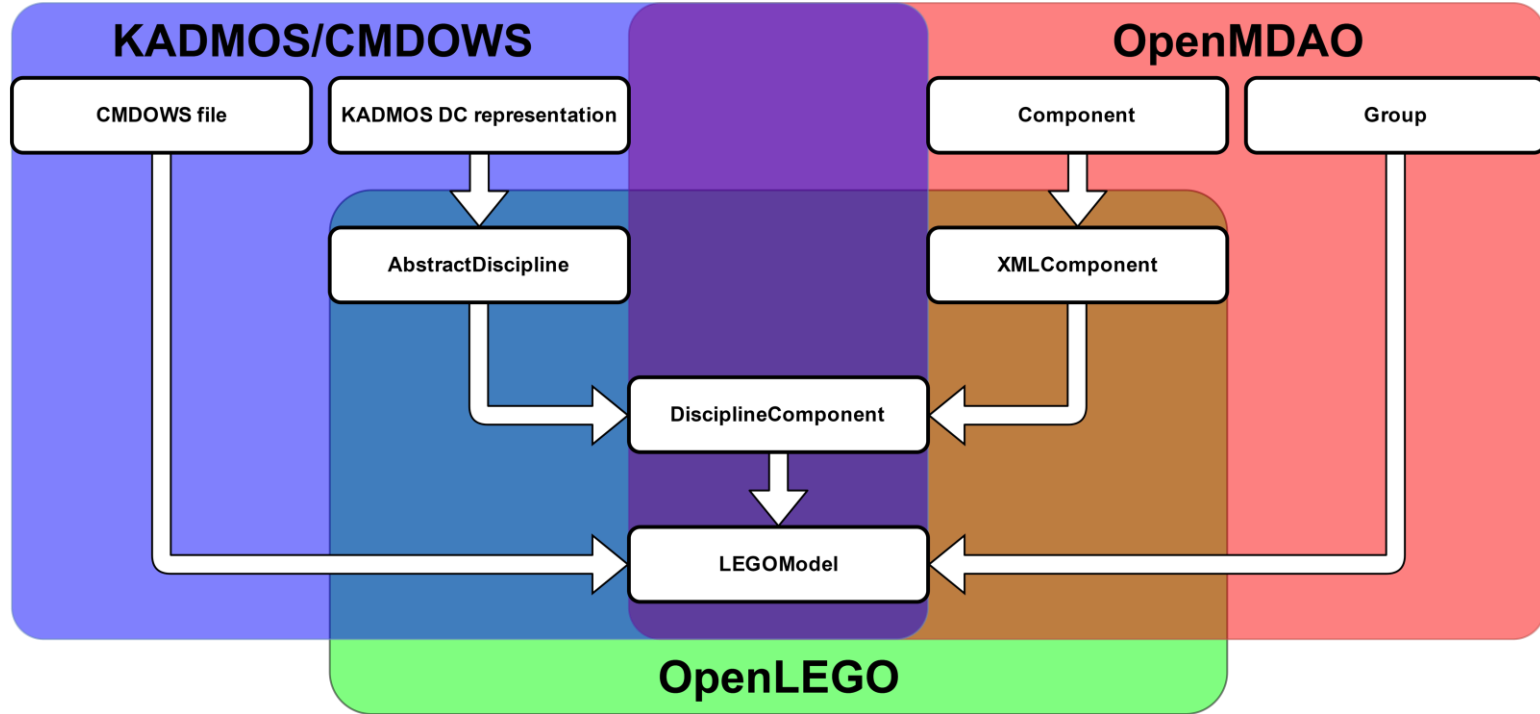
Demo time!



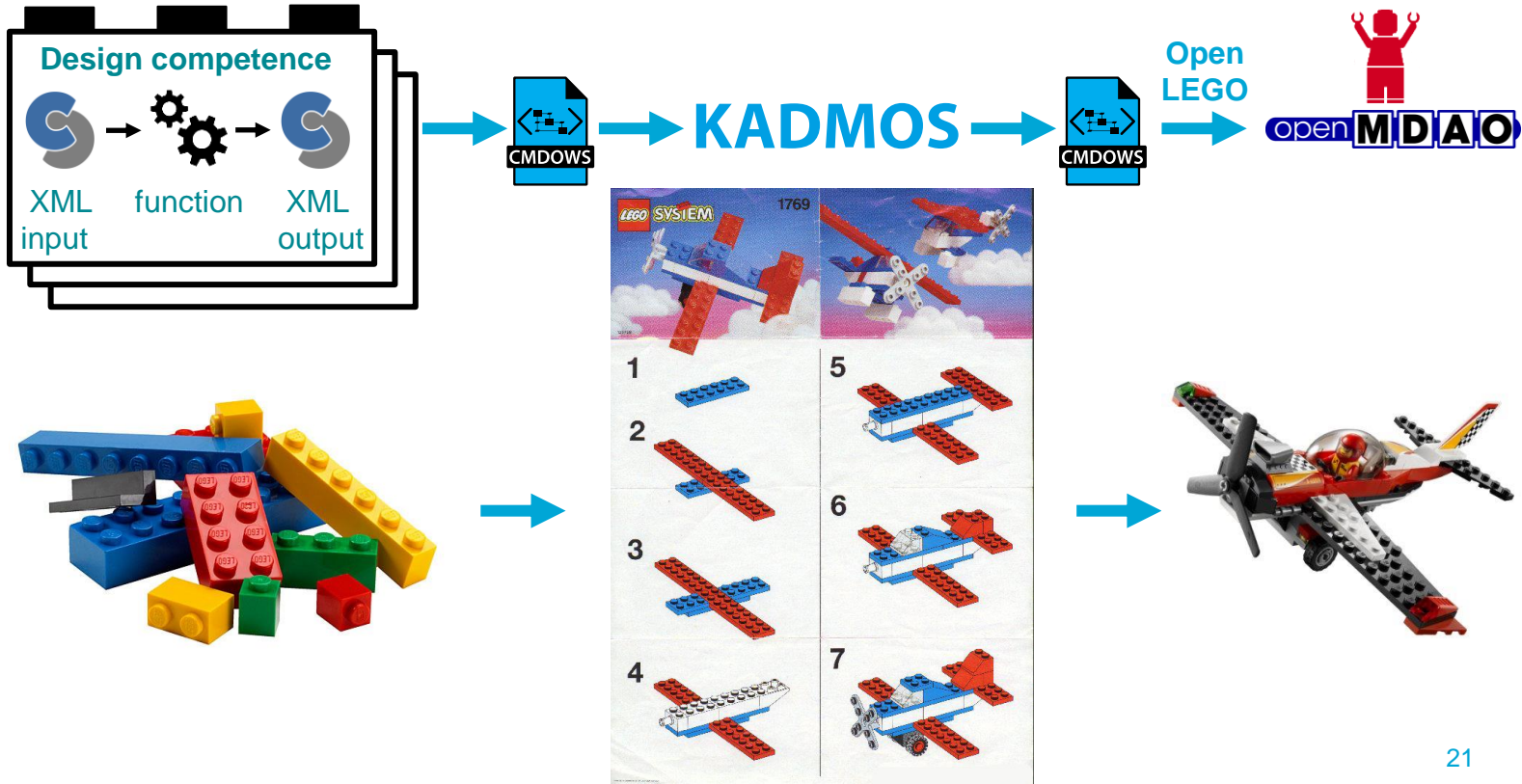
OpenMDAO Partition Tree and N^2 diagram.



Demo time!



Recap



Recap



Benefits:

- High level of reconfigurability and agility
- Scalable in different directions
- CMDOWS modularizes the problem formulation process
- CMDOWS parsers could be an OpenMDAO plug-in

Recap



AGILE Configurations



Questions?



Open-source softwares:

- OpenLEGO:
<https://github.com/daniel-de-vries/OpenLEGO>
- CMDOWS:
<http://cmdows-repo.agile-project.eu/>
- KADMOS:
<https://bitbucket.org/imcovangent/kadmos>
- OpenMDAO:
<https://github.com/OpenMDAO>

Acknowledgements

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Back-up slide: OpenMDAO 1.7.3

