

Final Event  
24-25<sup>th</sup> of May 2022

Industrial Feedback

# Global Impact Analysis



Powerful **A**dvanced **N**-Level **D**igital **A**rchitecture  
for models of electrified vehicles and their components

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# Task Force on Impact Analysis

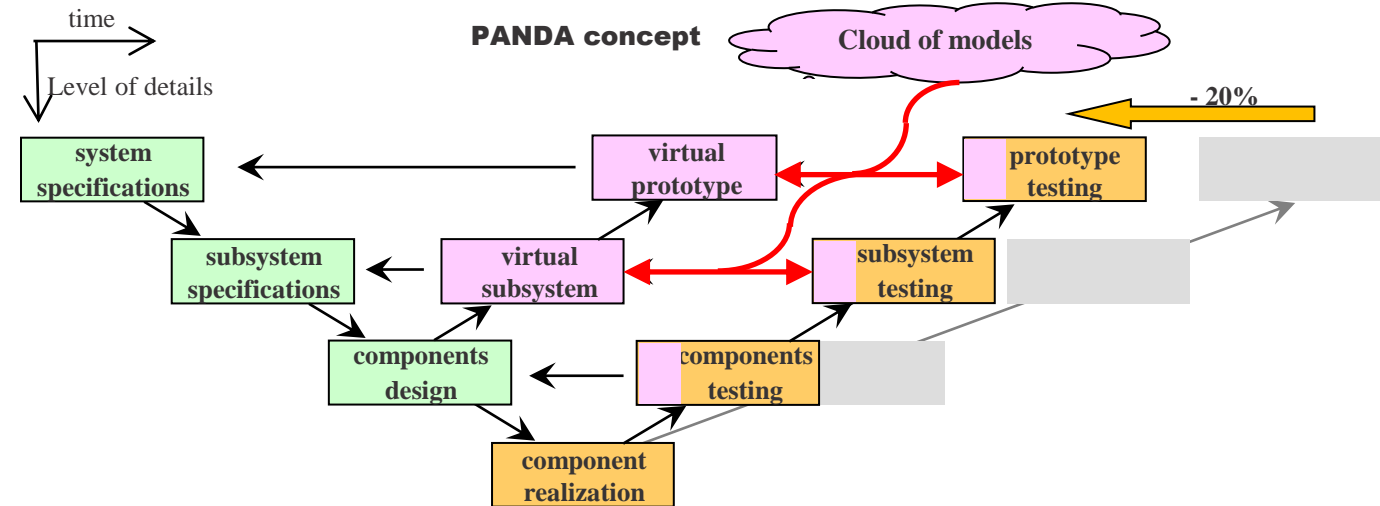


## 🐼 Perimeter

- 🐼 Scientific coordinator (Ulille)
- 🐼 Industries (RTR, SISW, Valeo)
- 🐼 SME (TY, Bluway)

## 🐼 Objective

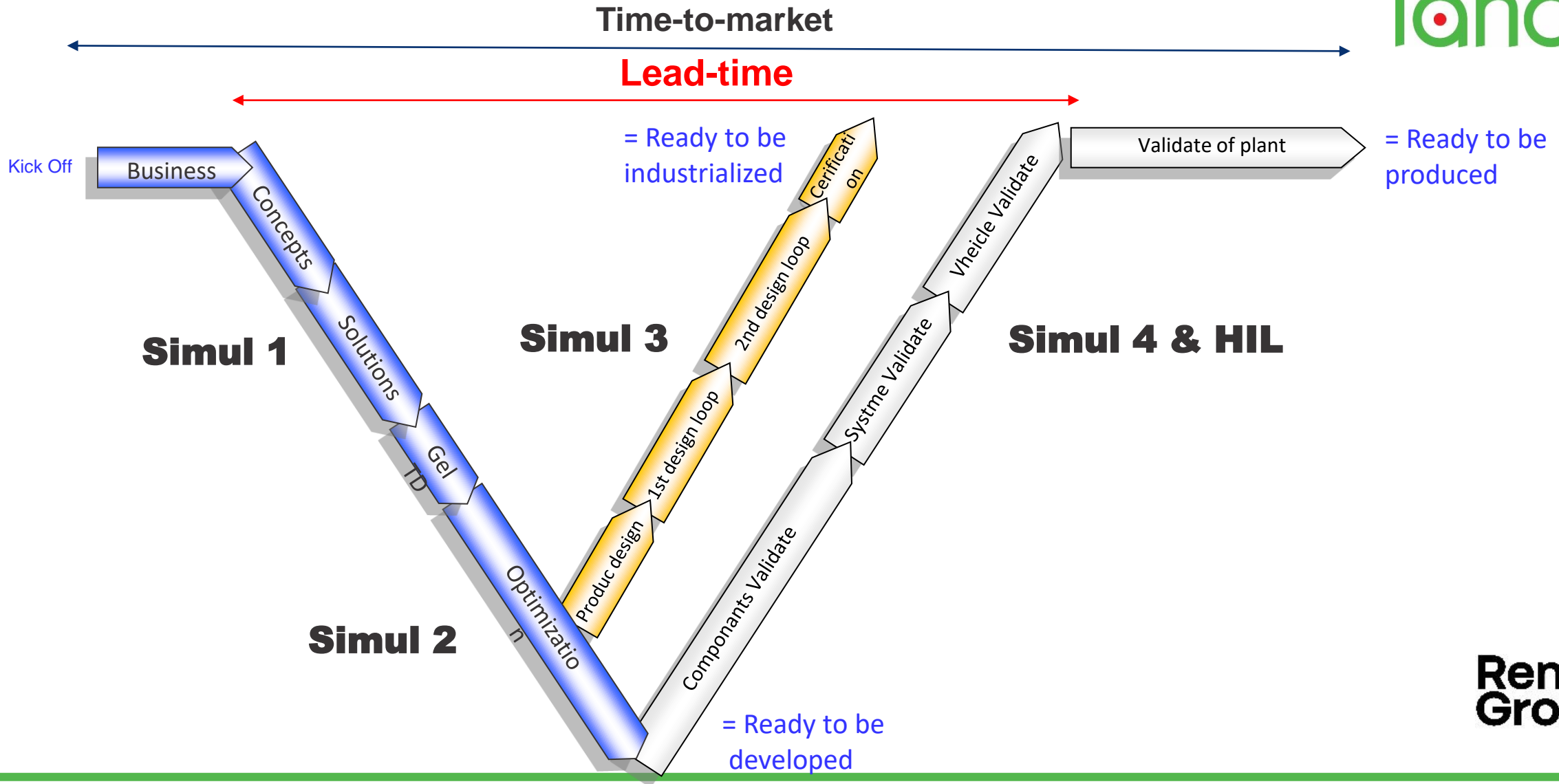
- 🐼 Analysis of the development phase of a vehicle
- 🐼 Analysis of the development phase of a component (e.g. e-drive)
- 🐼 Estimation of the potential gain using the PANDA method



**Which potential development gain?**



# Vehicle development using the W-model



**Renault Group**



# Why potential gains?



		PANDA Gain
Simul 1	Vehicle comparisons	<b>40%</b>
Simul 2	Tested solution	<b>50%</b>
Simul 3	Components Optimization	<b>50%</b>
Simul 4	Certification & testing	0%

framework / unified organization  
/ sharing models

from previous steps / plus control  
& energy management

sharing tests by OEM & supplier  
/ reducing experiments

potential reduction of vehicle  
prototypes (not evaluated)

Example: development of a component by supplier for an OEM

- 6 months incl. 3.5 months of component real testing
- HIL testing can be reduced by 75% the testing time
- Sharing models : more reduction of time / increase of reliability



# Potential gain in lead time

Representative scenario for developing a completely new vehicle  
(based on a real development schedule)

	Reference weeks	PANDA Gain	New scheme weeks
Training	0		<b>10</b>
Vehicle comparisons	50	<b>40%</b>	30
Tested solution	20	<b>50%</b>	10
Components Optimization	50	<b>50%</b>	25
Certification & testing	60	0%	60
<b>Total</b>	<b>180</b>		<b>135</b>

method training / cloud development  
(evaluated by SISW with no prior  
knowledge on EMR)

**Potential gain of 25%  
in lead-time (if cumulative gains)**

# Analysis from other H2020 projects



multi-level  
models for  
BEV

remote  
HiL testing  
xEVs

multi-level  
models for  
xEVs

Cloud / EMR based  
multi-level  
models for  
xEVs

	OBELICS gain	XILforEV gain	VISION-xEV gain	PANDA Gain
Vehicle comparisons	50%		25%-35%	<b>40%</b>
Tested solution	50%		25%-35%	<b>50%</b>
Components Optimization	50%-75%	50%	40%	<b>50%</b>

<https://obelics.eu/>

<https://xil.cloud/>

<https://vision-xev.eu/>

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# Thanks for your attention!

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