

EMR'23, Lille (France)

<http://emrwebsite.org>

“Driver-in-the-Loop simulation for battery testing”

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DiL principle

2

Studied vehicle

3

DiL simulation for battery testing



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“DiL principle”

Driver-in-the-Loop simulation for battery testing

- Context of Driver-in-the-Loop simulation -

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Topics of Driver-in-the-Loop

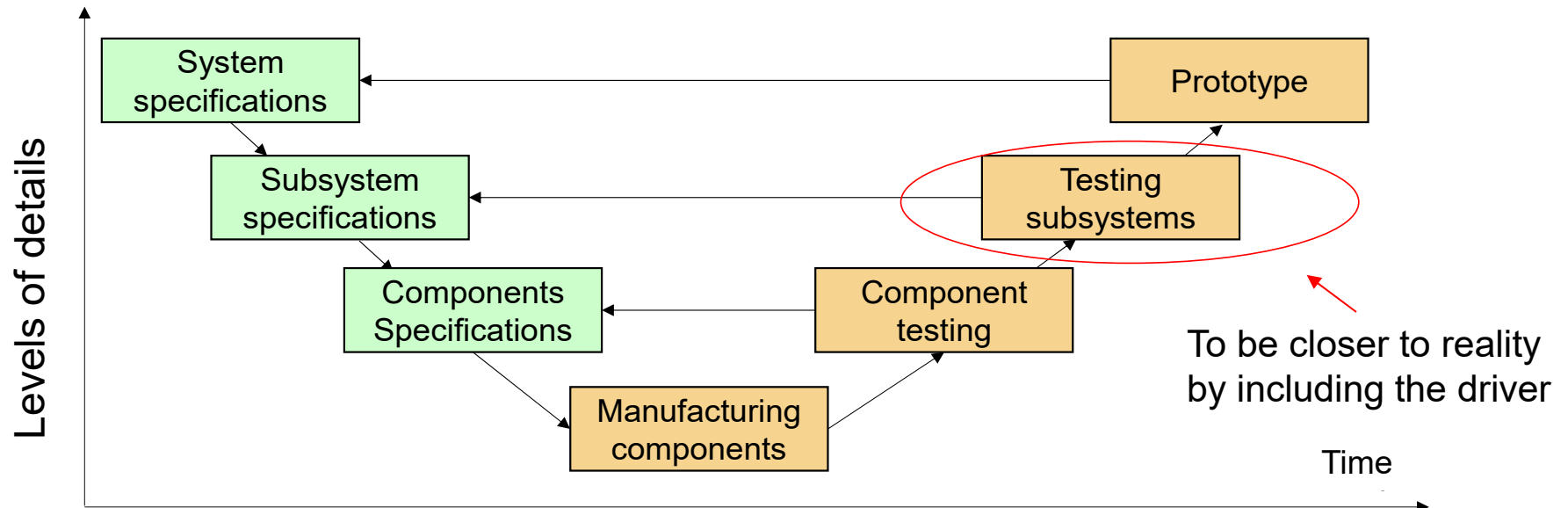
- Infrastructure & traffic scenario
- **Powertrain calibration**
- Autonomous assistance
- **Behavior & Human factor**
- Connected EMS
- Learning to drive (eco-driving)



Driver



Battery

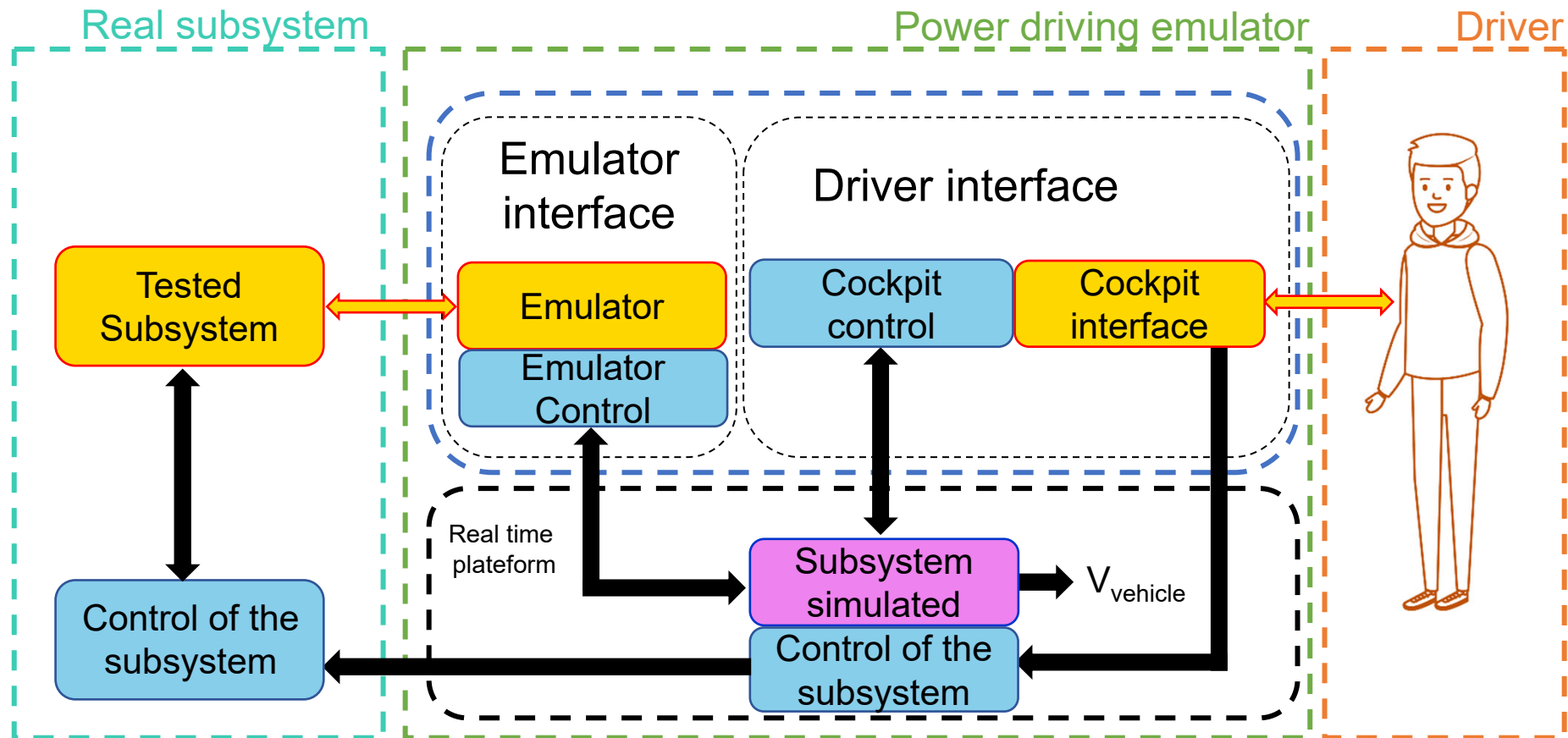


Driver-in-the-Loop simulation for battery testing

- Driver-in-the-Loop simulation subsystem testing principle -

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“Studied vehicle”



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Driver-in-the-Loop simulation for battery testing

- Studied vehicle -

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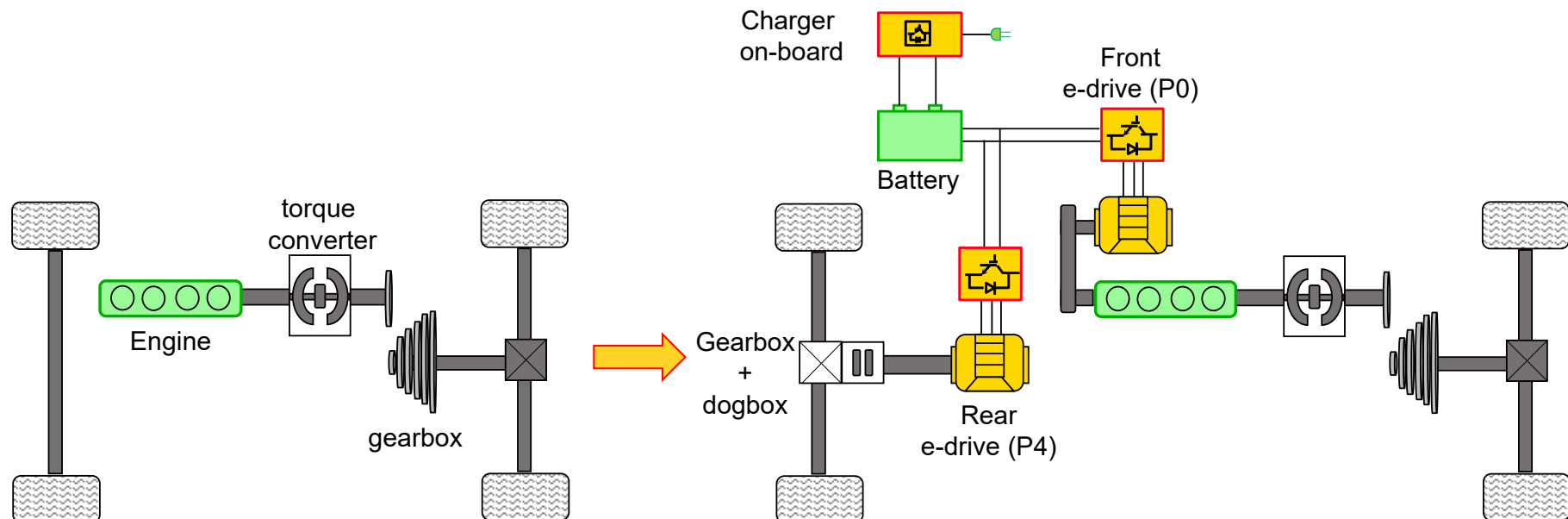
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Robin VINCENT,
Sylvain ROCQUET,
Aurélien LIEVRE,
Mariam AHMED
Valeo, Créteil, France

Peugeot 308 SX



Peugeot 308 SX retrofitted into PHEV

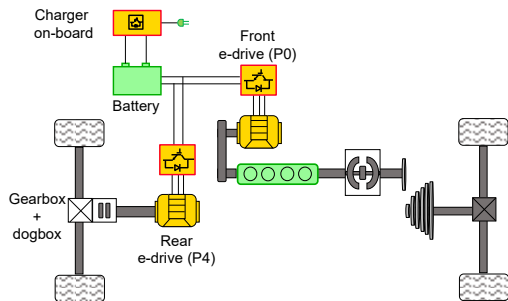
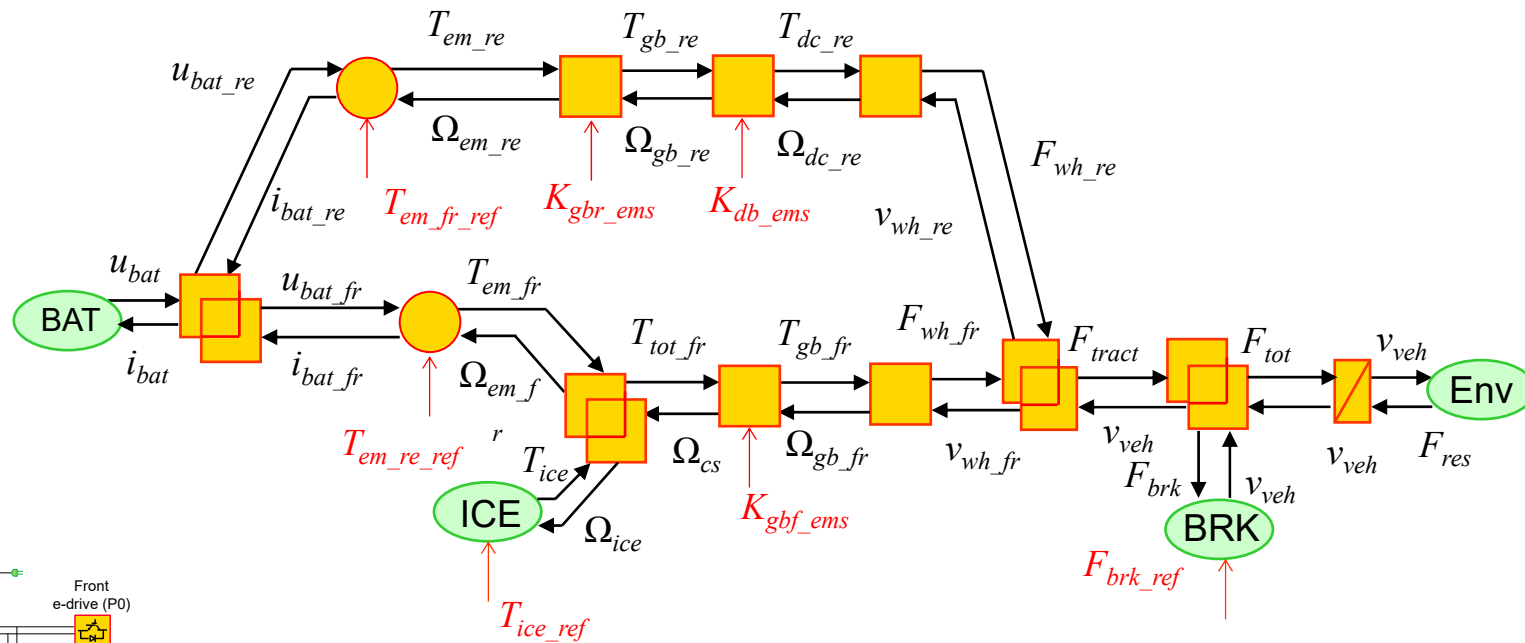
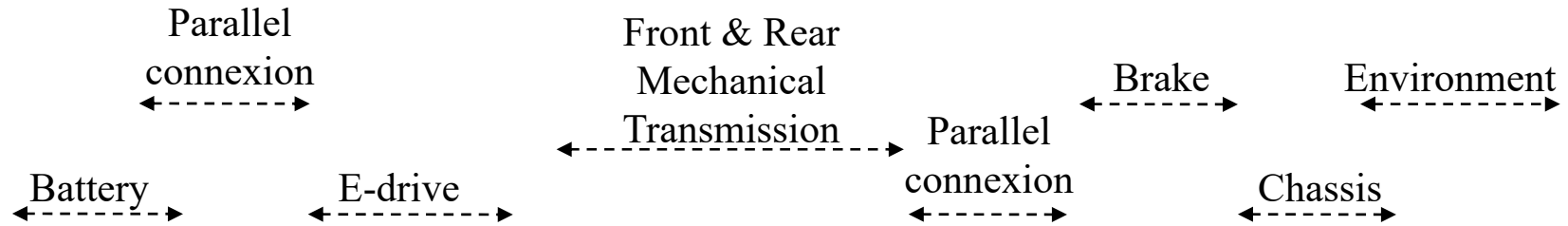


Driver-in-the-Loop simulation for battery testing

- EMR -

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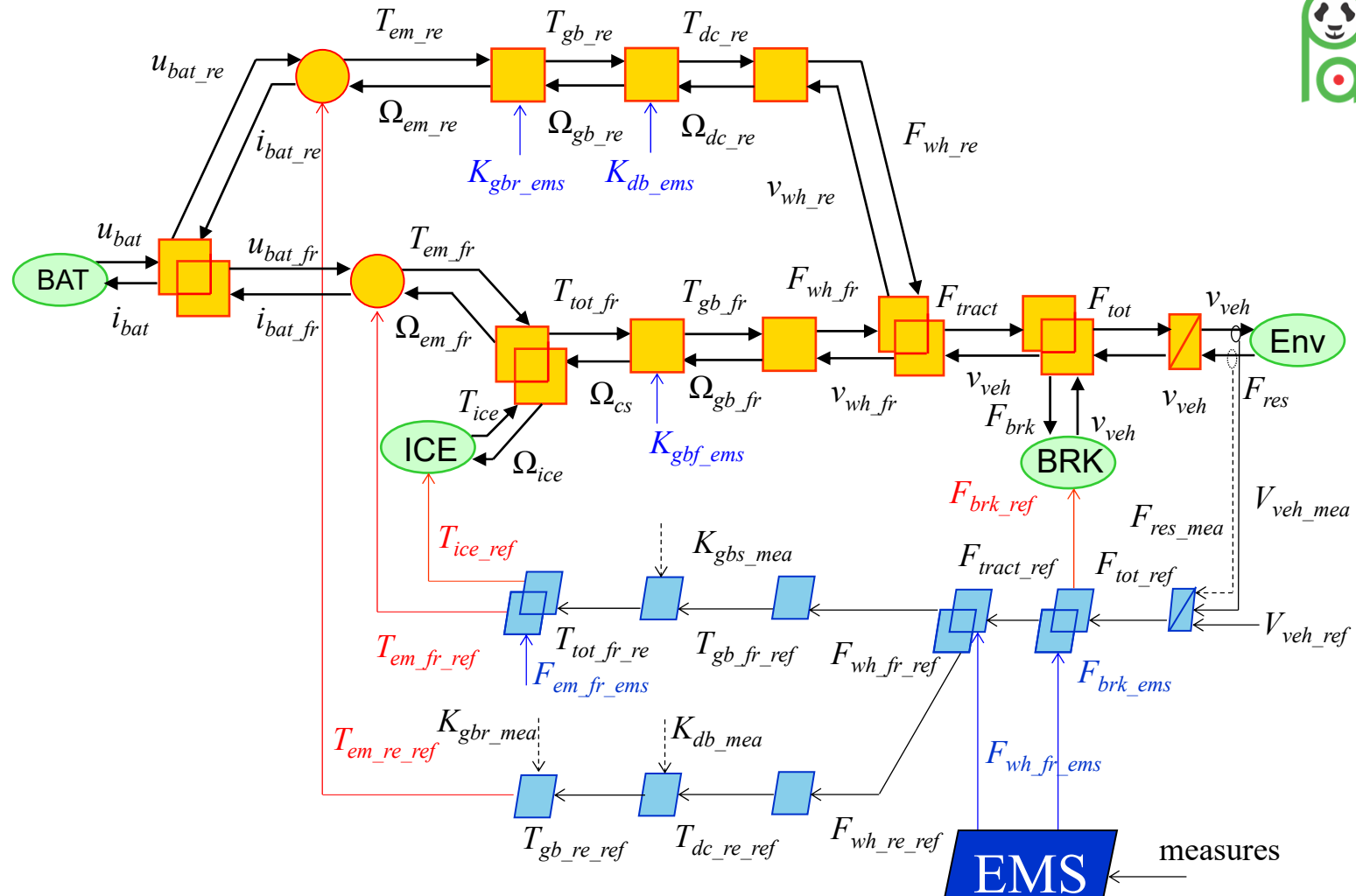


Driver-in-the-Loop simulation for battery testing

- EMR & SMC -

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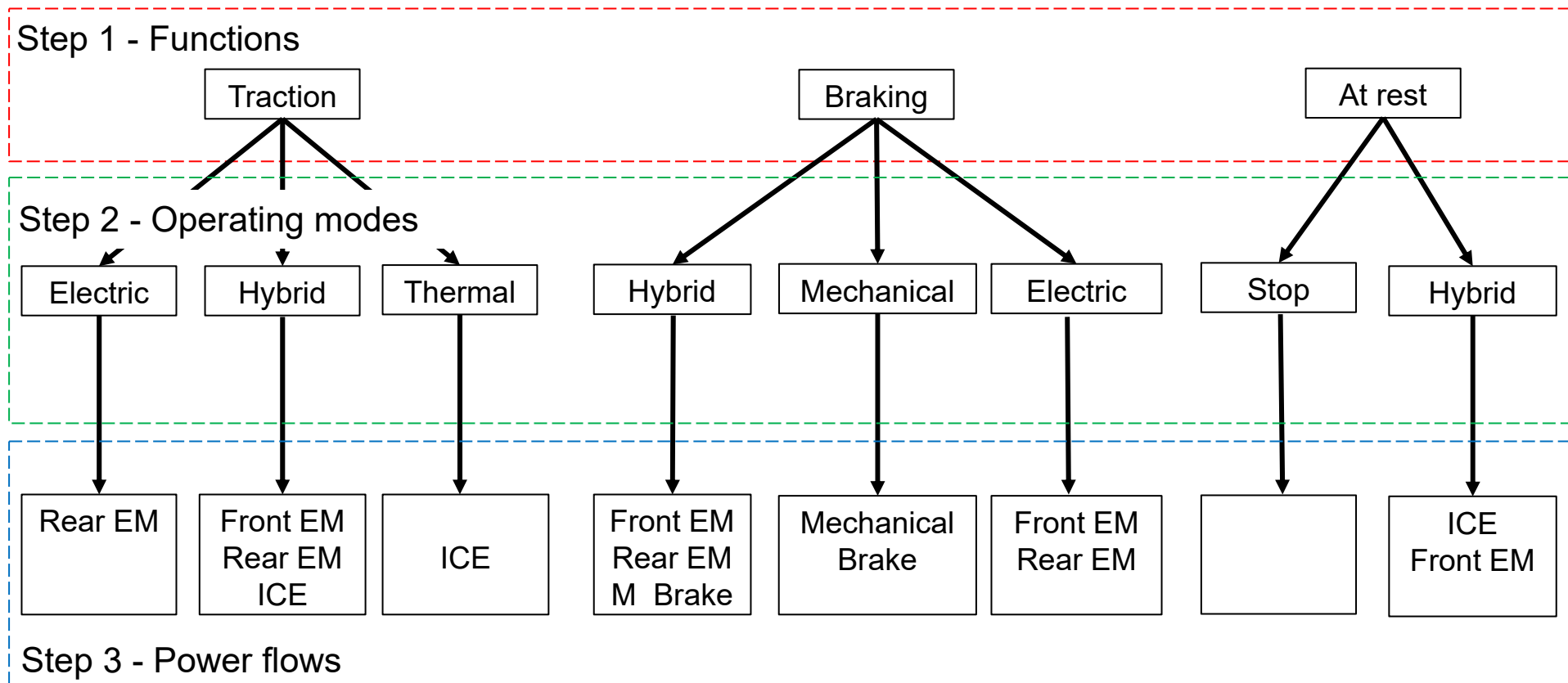
[Tournez 2022]

Driver-in-the-Loop simulation for battery testing

- Energy management strategy -

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➡ A rules-based strategy has been based on Dynamic programming results



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Driver-in-the-Loop simulation for battery testing

- **Démonstration vidéo** -

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Conclusion

- A model, its control and a rules-based strategy was developed based on DP
- Setup DiL simulation has been realized
- The first results was obtained

Perspective

- Extending the DiL setup for e-drive testing



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« BIOGRAPHIES AND REFERENCES »

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- Authors -

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