

Final Event
24-25th of May 2022

Key innovations

EMR library & cloud facilities



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

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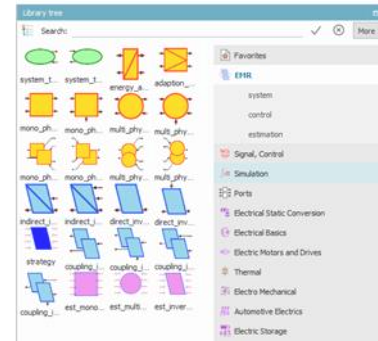
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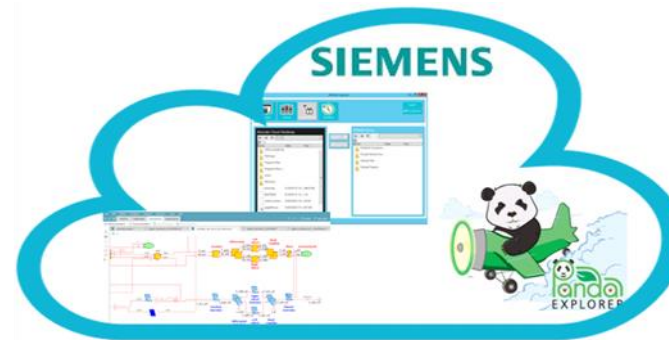
Main key innovations



 EMR library



 Cloud simulation platform

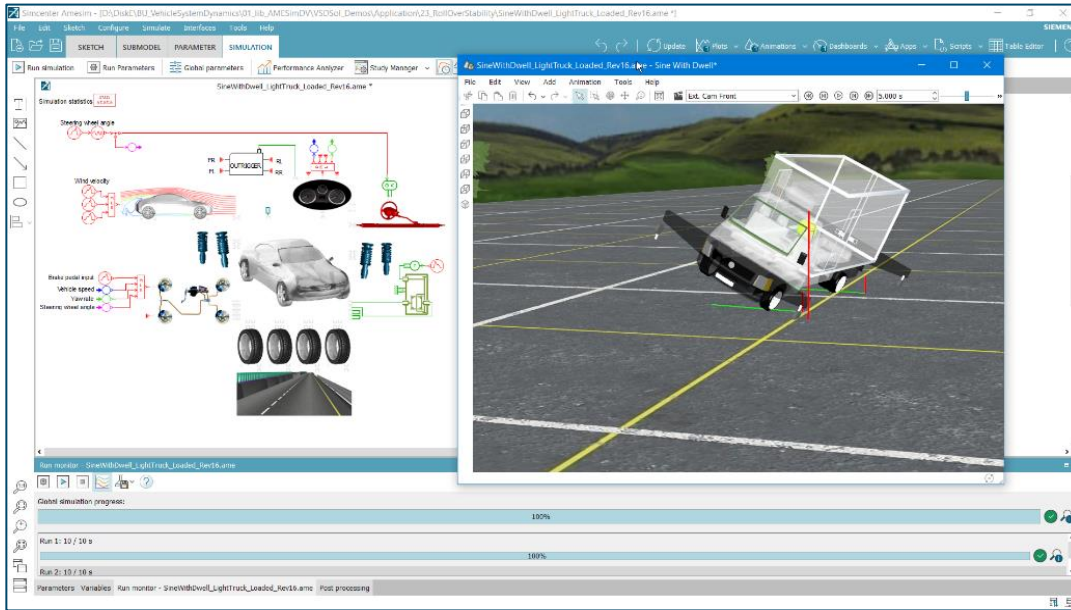


 Cloud storage infrastructure

 Panda Converter tool



Simcenter Amesim



Pre-design

Systems sizing & integration

Performance balancing

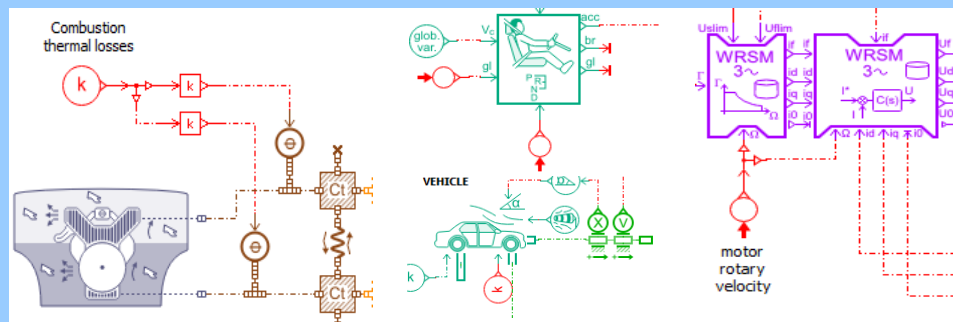
Controls validation

Advanced industrial
Multiphysics simulation
package

based on
**structural libraries
for models**
and
a functional library
for control



new **EMR-based
functional library**
for models
& control



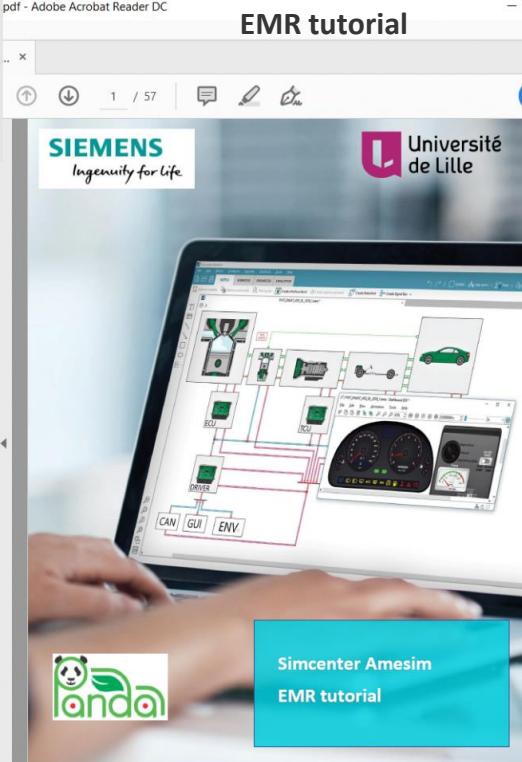
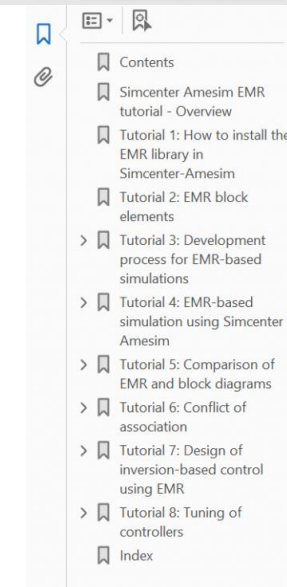
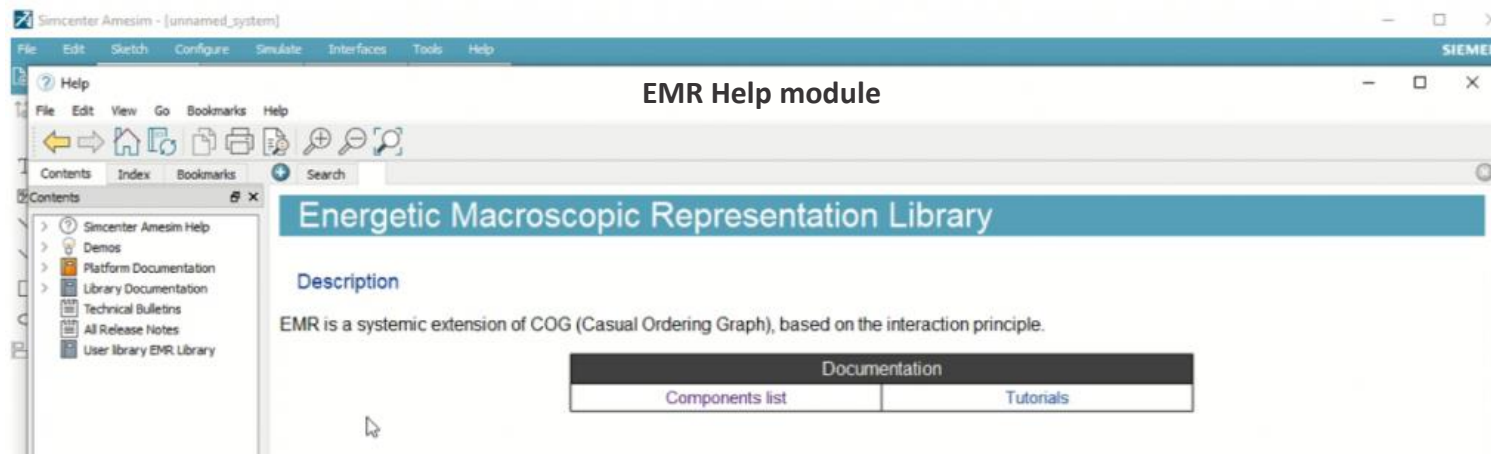
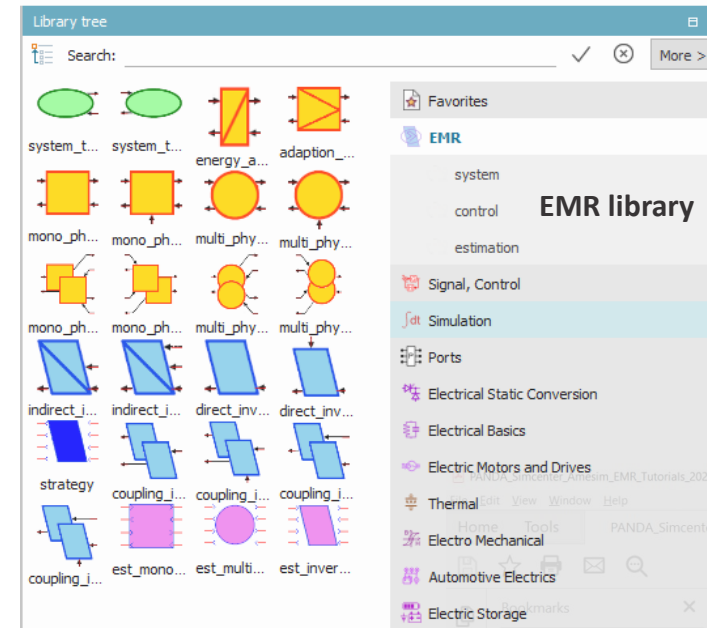
**48 libraries
(6500 models)**

- Hydraulics
- Pneumatics
- Thermal
- Electrical
- Mechanical
- Signals, etc.



Simcenter Amesim EMR library

- 🐼 New and dedicated **EMR library** where all components defined by EMR theory are included
- 🐼 **Help module** with the description of each EMR element and new developed EMR tutorials included
- 🐼 ***pdf tutorial** support document to facilitates the use of EMR method and library in Simcenter Amesim and guide the simulations engineers trough EMR method



EMR-based virtual vehicles

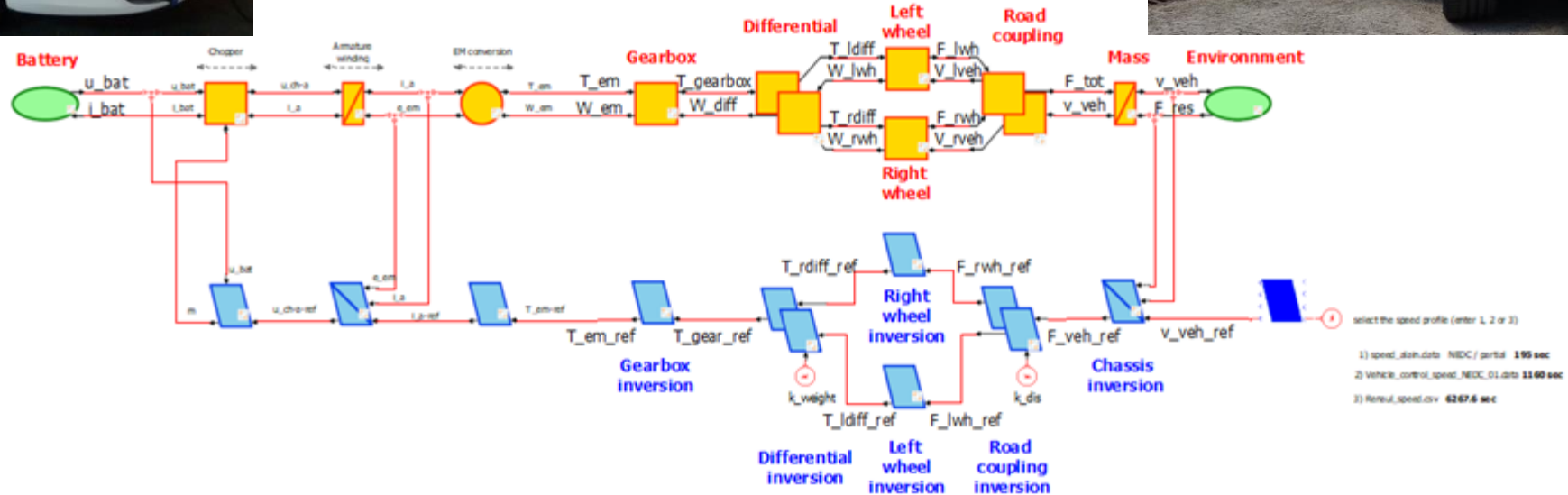


Simcenter Amesim EMR n-level vehicle models based for:

Renault Zoe (BEV)

Mobypost (FCV)

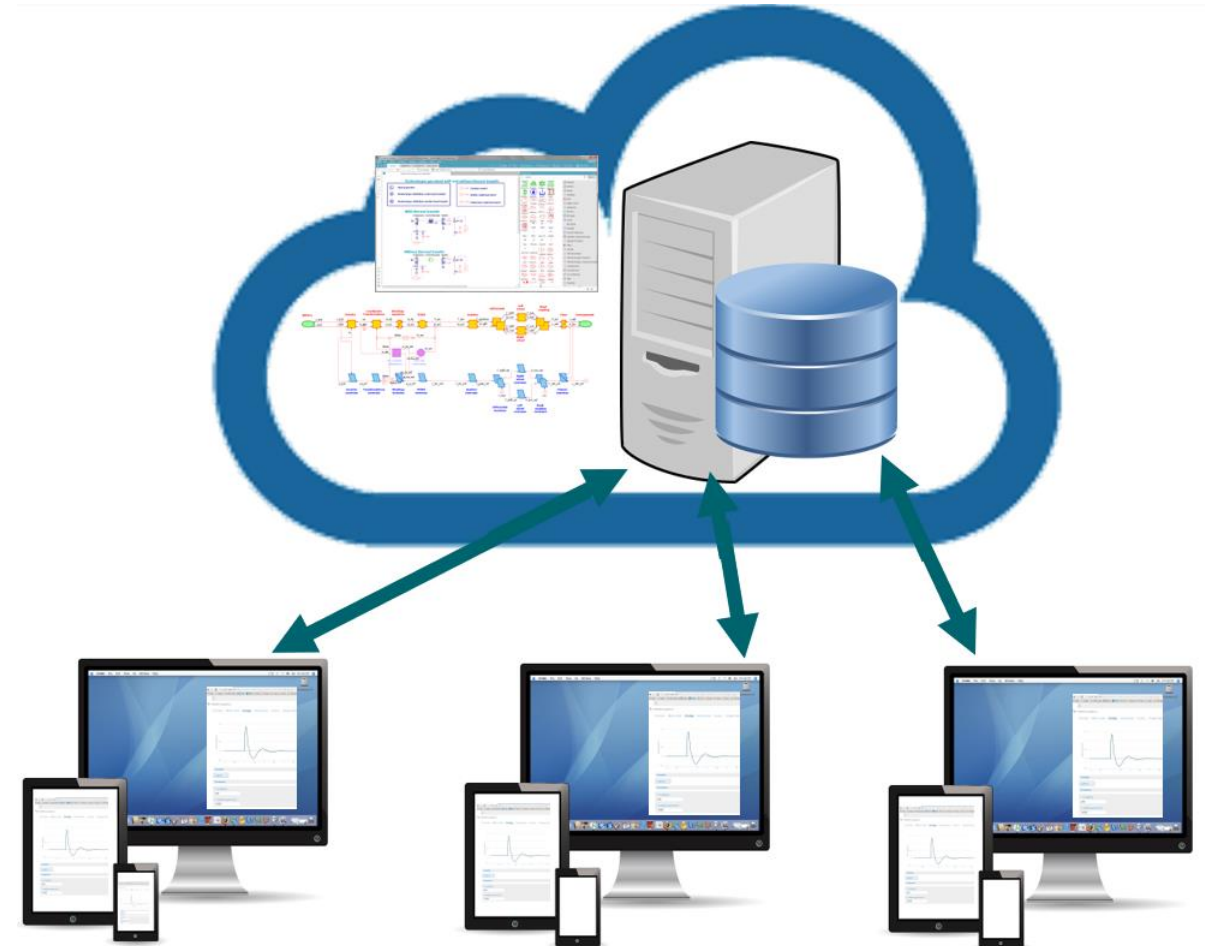
Valeo Demo Car (P-HEV)



Cloud simulation platform



- 🐼 New and dedicated **cloud simulation platform** with cloud EMR library included and computing facility
- 🐼 **Individual cloud simulation account** for all PANDA partners
- 🐼 Allow mobile, virtual, and instantaneous connection between partners
- 🐼 Help to perform a very **fast sharing models and knowledge between partners**, to spread of the models for seamless integration in a complete vehicle models



Cloud simulation workflow

Cloud Facilities



Panda drive



Upload/download
simulation files and results

Rescale virtual computer

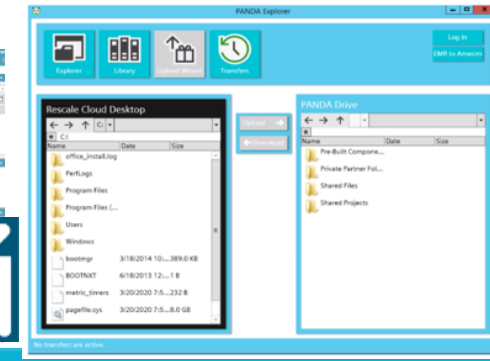
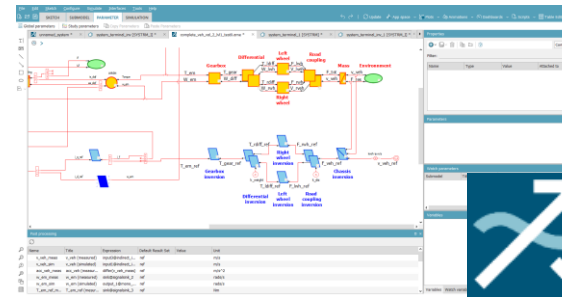
Personal physical computer



connects to



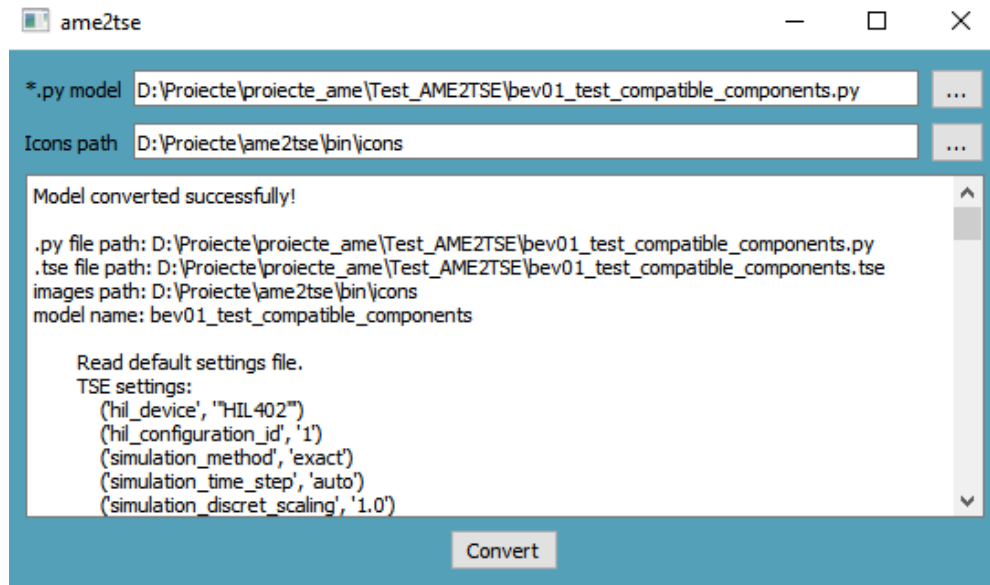
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Ingenuity for life



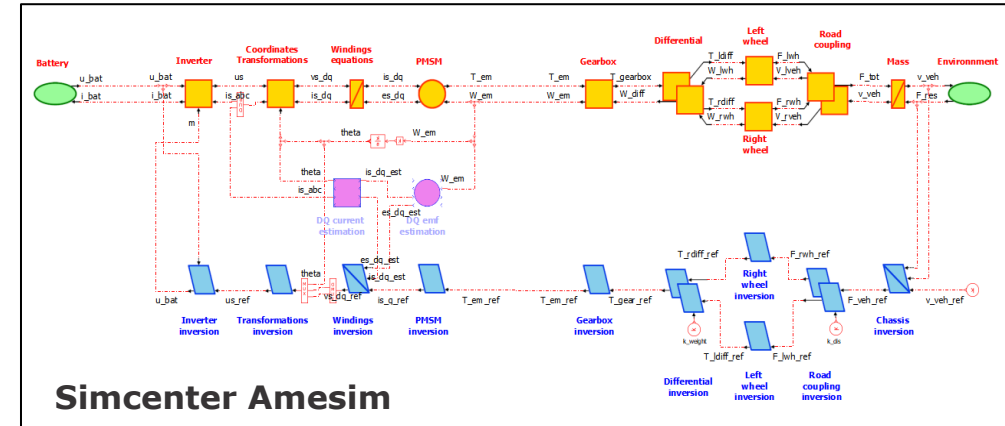
Panda Converter Tool



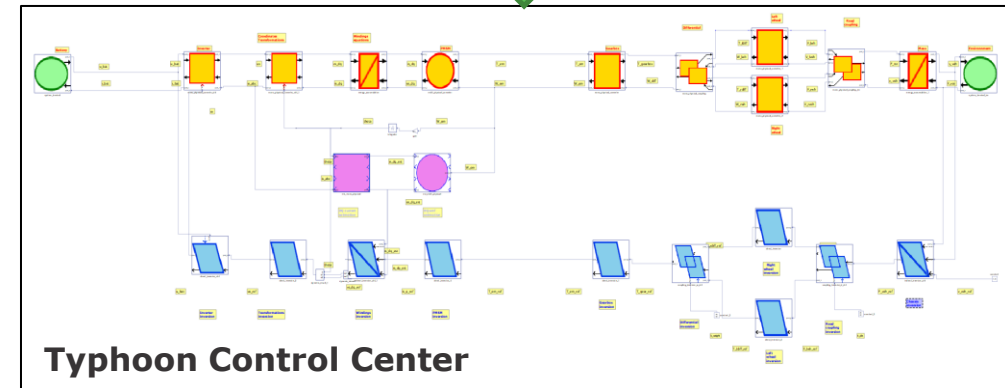
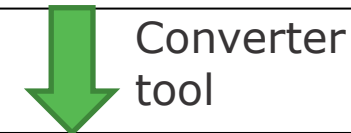
converter tool to translate EMR models from Simcenter Amesim (PANDA simulation platform) to Typhoon Control Center (PANDA real-time/HIL platform)



Panda Converter tool interface



Simcenter Amesim



Typhoon Control Center

**virtual
testing
of the
W cycle**

**real
testing
of the
W cycle**



Thanks for your Attention!

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"Which is more important," asked Big Panda, "the journey or the destination?"

"The company," said Tiny Dragon.