A running car will experience drag and downforce.

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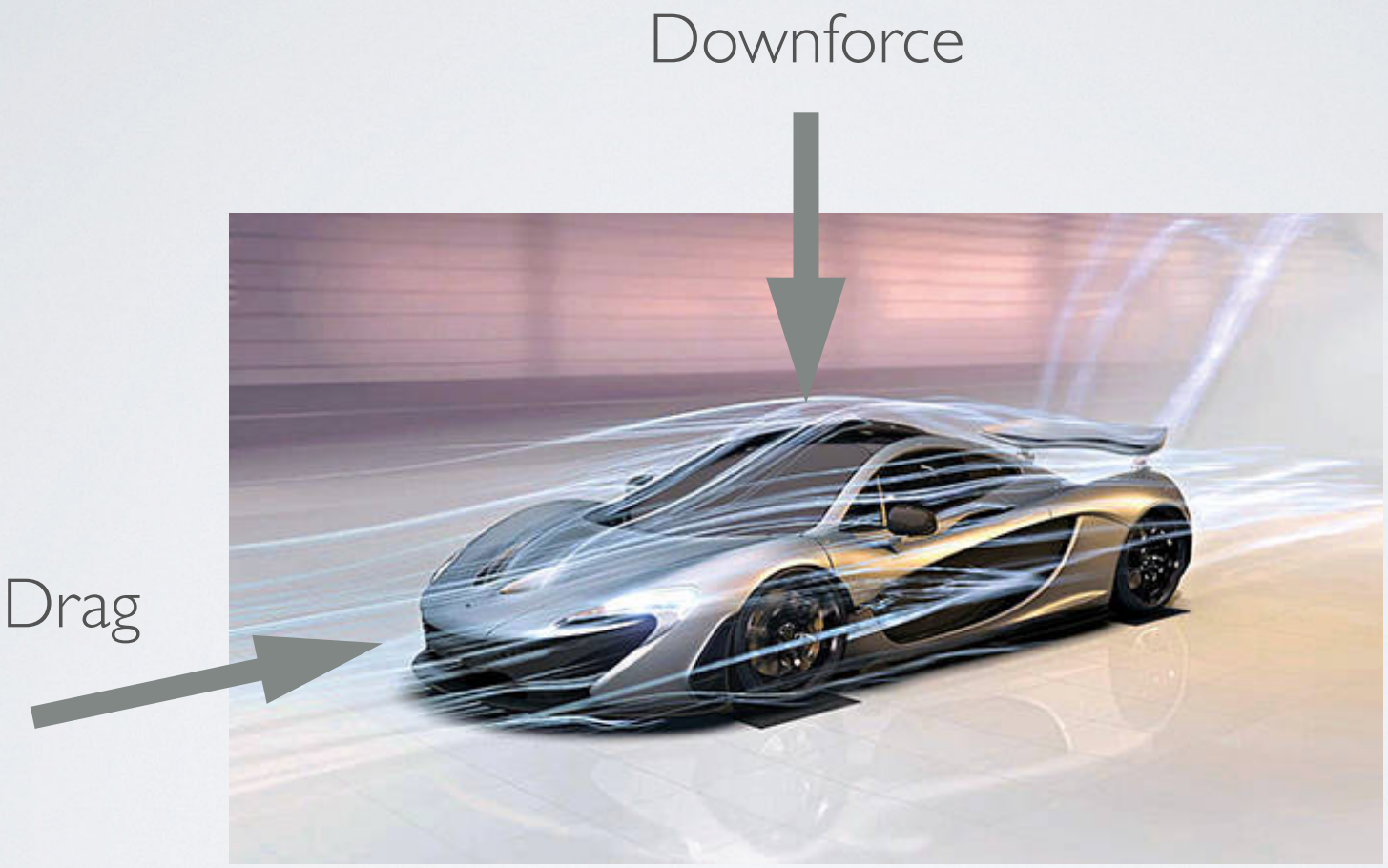
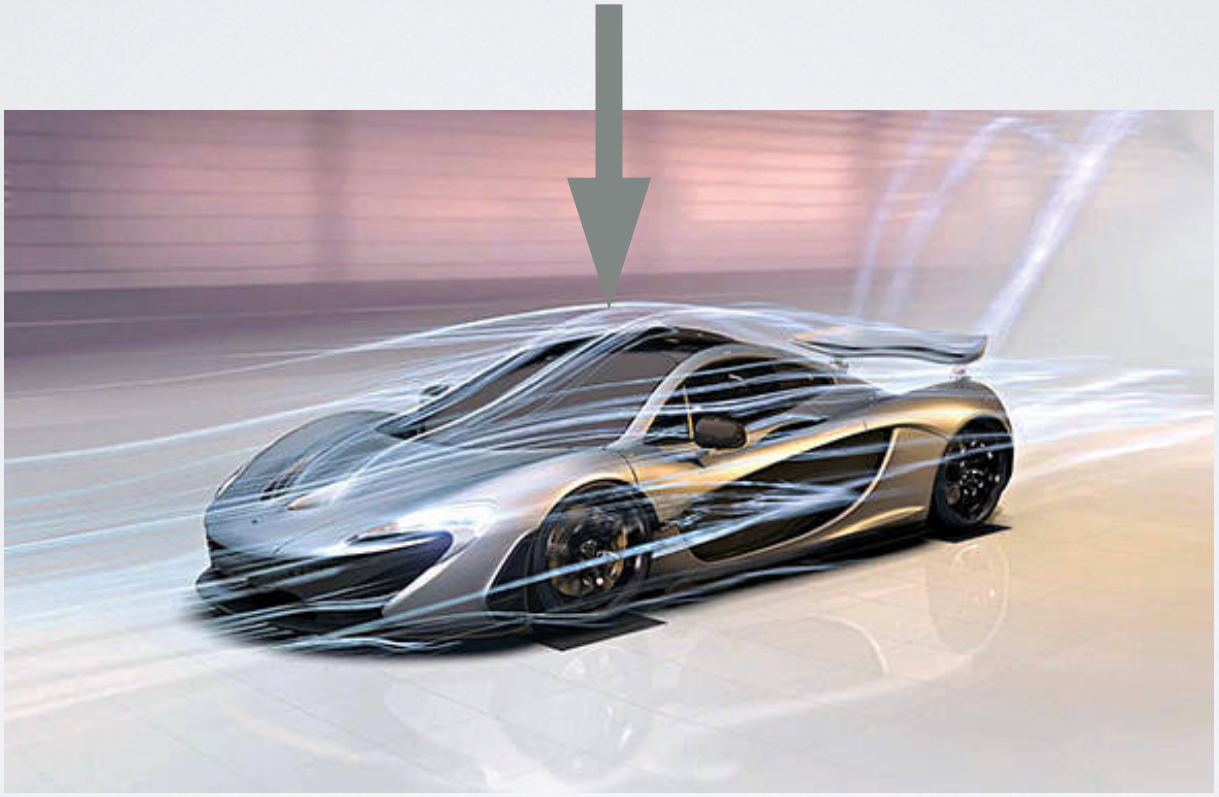


Simple Tech: Aerodynamic downforce

Based on aerodynamics, Downforce $D = \frac{1}{2} W H F \rho v^2$

When a car runs faster, the downforce will increase dramatically.

Downforce $D = \frac{1}{2} W H F \rho v^2$



Simple Tech: Aerodynamic downforce

When a car runs faster, the downforce will increase dramatically.

Downforce $D = \frac{1}{2} W H F \rho v^2$

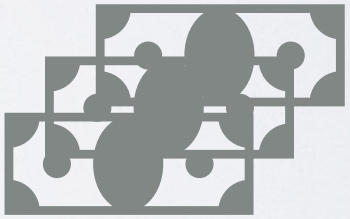
Simple Tech: Aerodynamic downforce

IT CAUSES

Worn Tires

Road Damage

Re-engineering

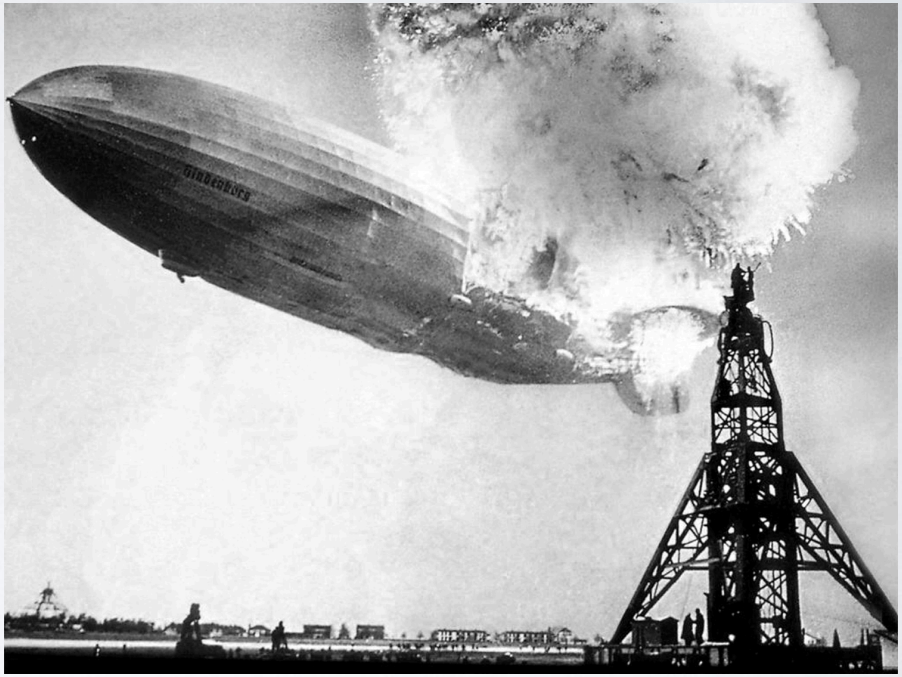


WHAT ABOUT FLYING CARS?

Mark Moore, Uber Elevate

Concorde Effect, Hindenburg Disaster

Ryan P. Smith



burning-with-mast

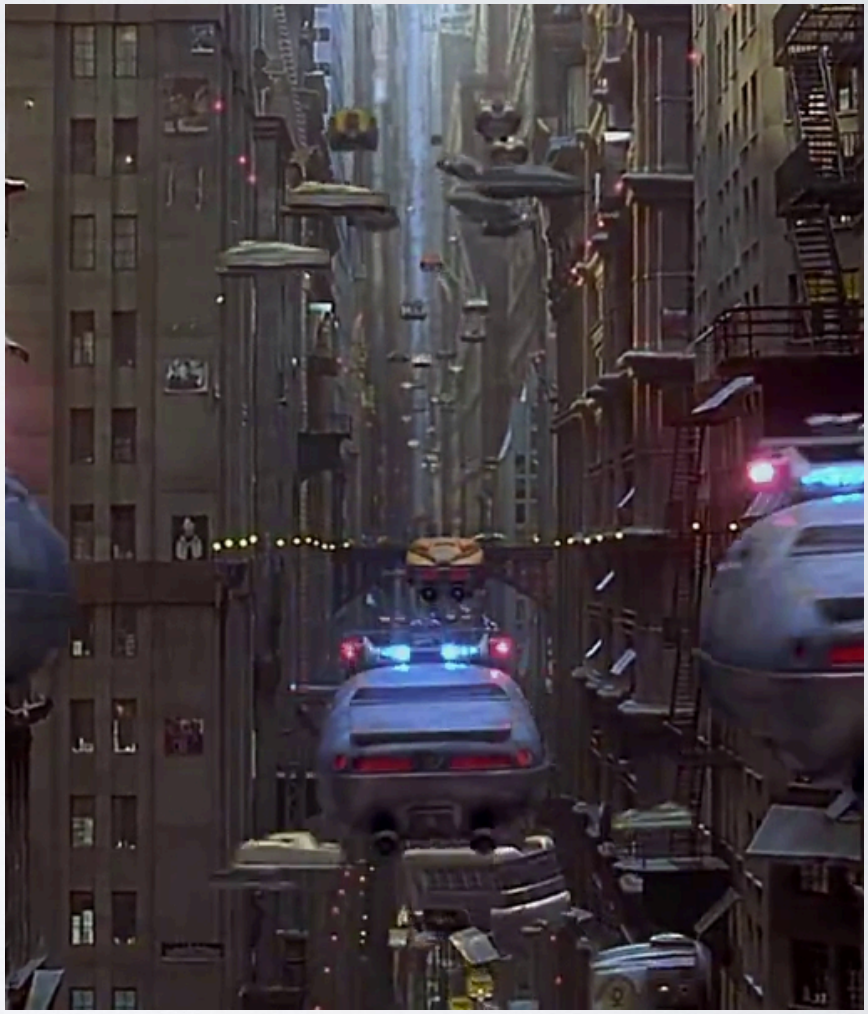
It takes one accident to destroy the trust of entire industry

Hold on, let's be optimistic first

Worldbuilding Stack Exchange

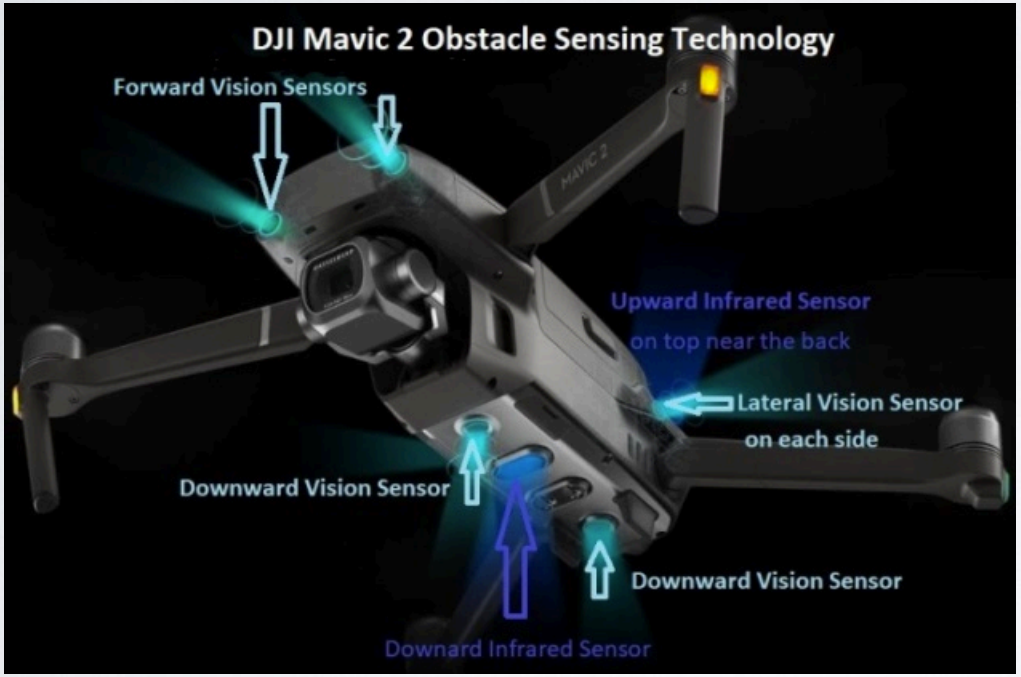
Technical Requirement for the Scene

- Data from sensors
- Communication
- Computation

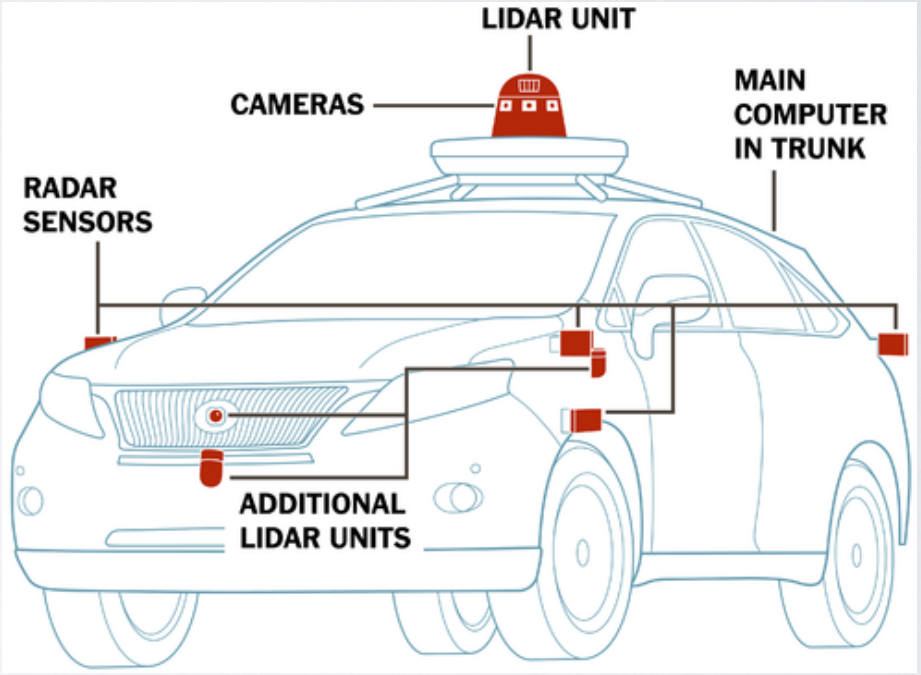


Worldbuilding Stack Exchange

Sensors: DJI Drone + Waymo, easy

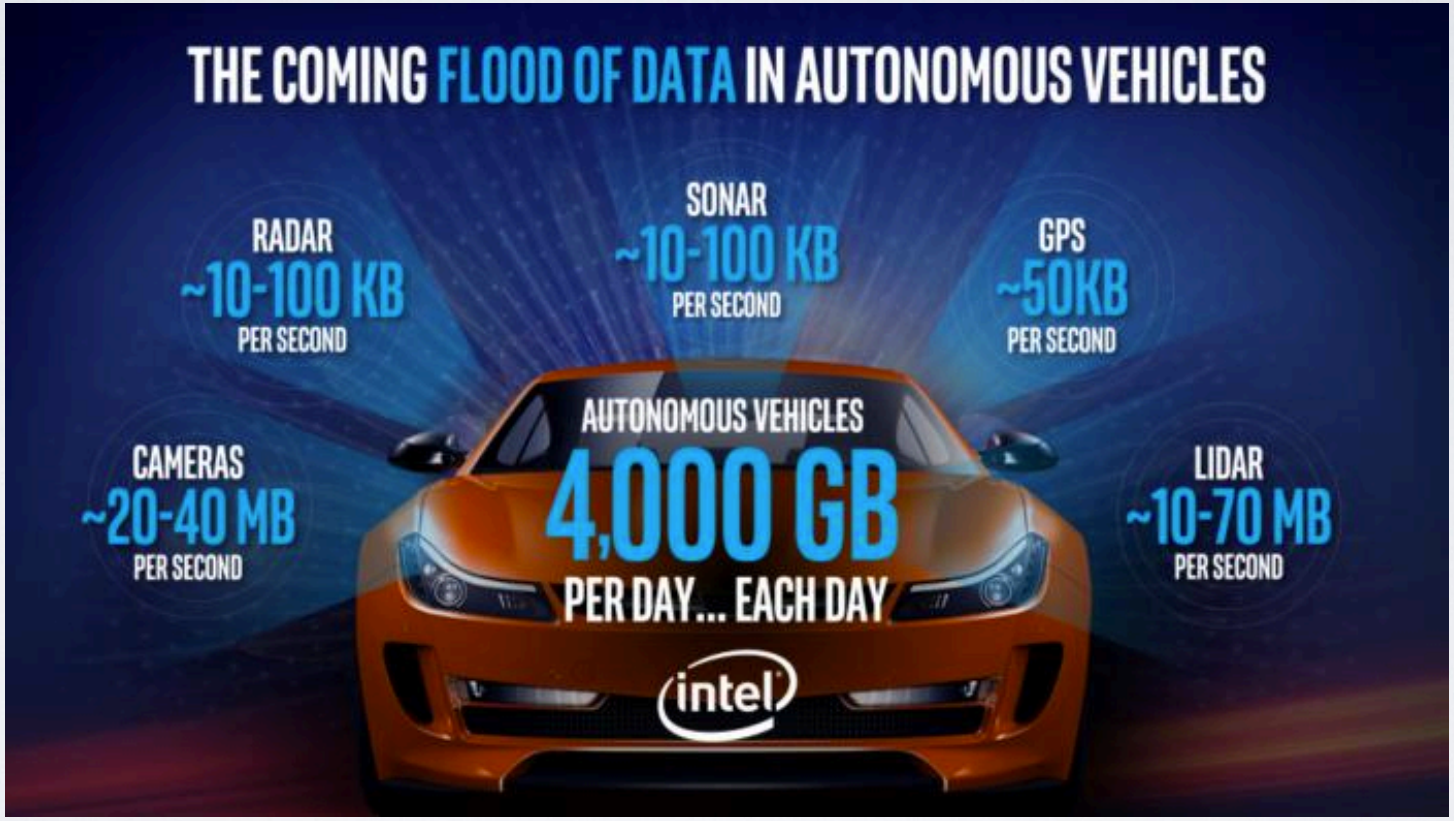


DroneZon



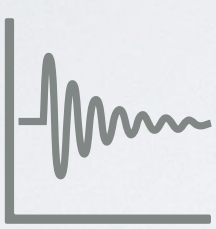
The New York Times

Data: 1.8+ GB/min, doable



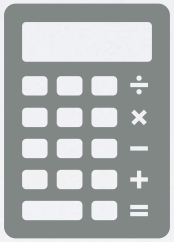
Network World.com

Complex System



Big Data

+

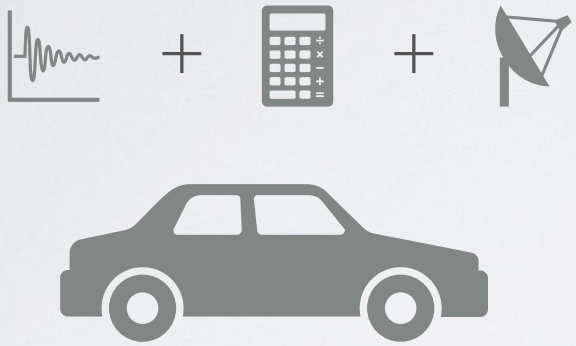


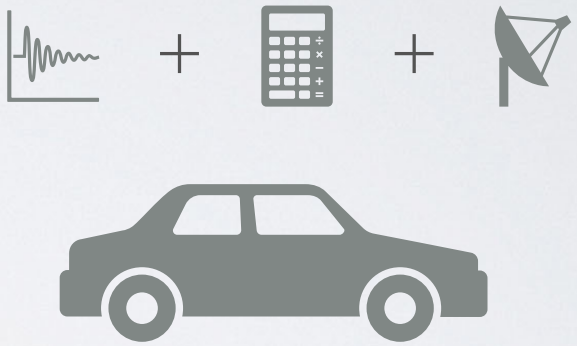
Computation
Delay

+

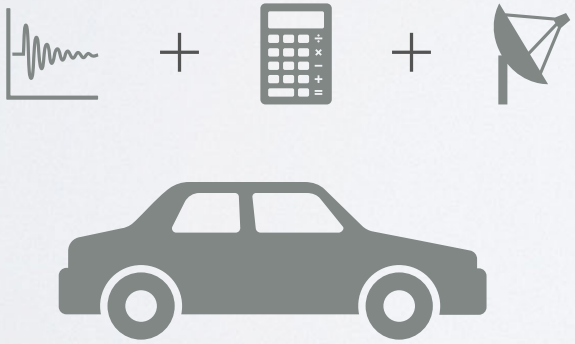
Communication
Latency

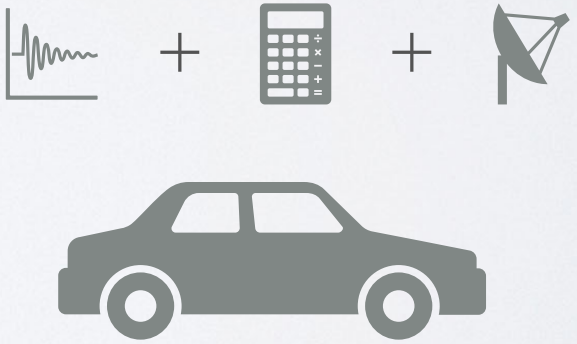
A Network of Complex System!





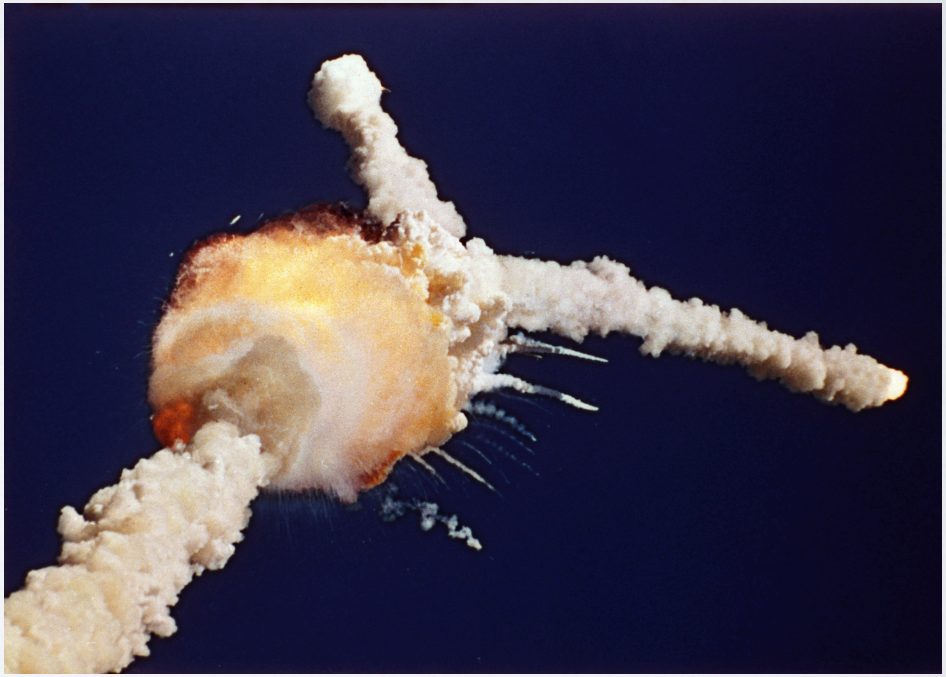
$\Sigma\Sigma$(data/compute*delay)_i (data/compute*delay)_j ~ n^2





Some complex systems

The Dinosaur Store

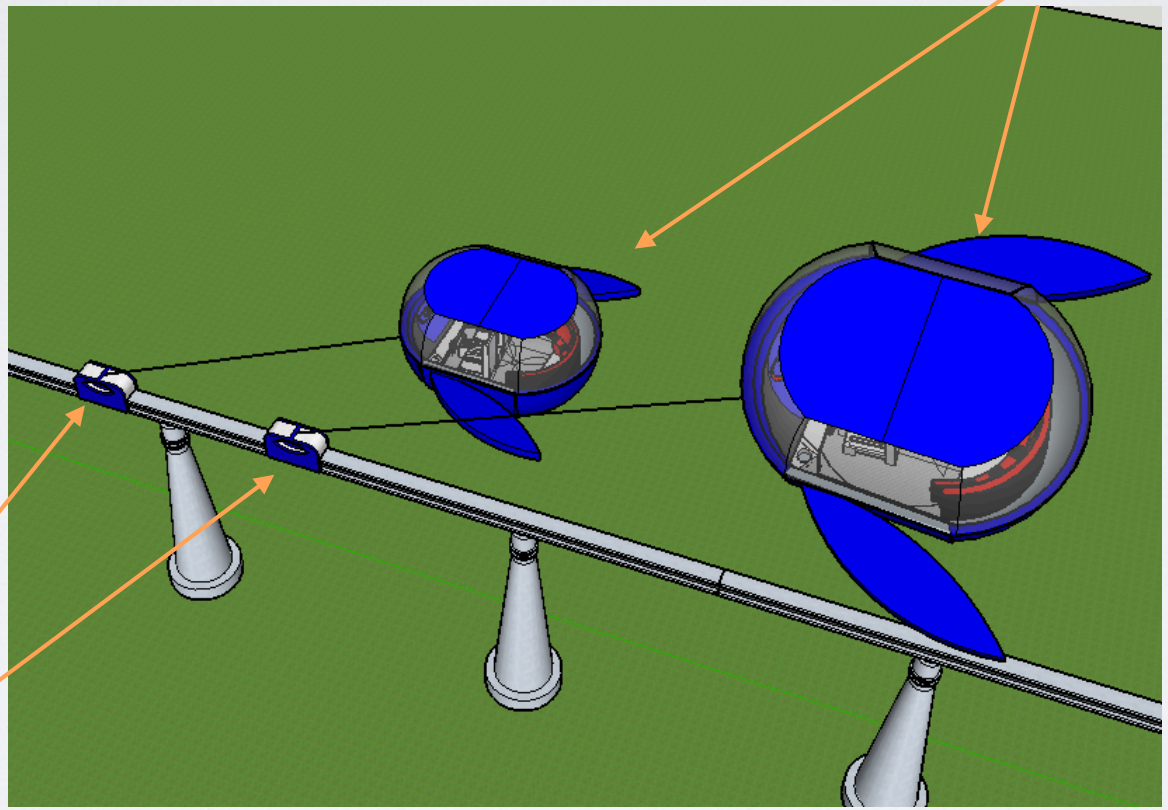


Time Magazine

OKAY, THEN WHAT?

Rail powered Drive towing Capsule, DragFly

Capsule: passenger cabin



Drive: power system + luggage carrier

Modularity/Redundancy

	power system	control system	passenger
Car	all-in-one	all-in-one	all-in-one
Airbus Drone Car	Drone, Drive modular	passenger modular	passenger modular
DragFly	Drive modular	rail	passenger modular
Monorail	all-in-one	all-in-one	cart modular
Airplane	all-in-one	all-in-one	all-in-one

Comparison

	Modularity/ Redundancy	Safety	Feasibility	Dev Affordability
Car	2	2	5	5
Airbus Drone Car	4	1	2	2
DragFly	5	4	3	4
Monorail	3	5	4	2
Airplane	1	3	4	2