Piloting Projects in an Increasingly Autonomous World

World Economic Forum ®
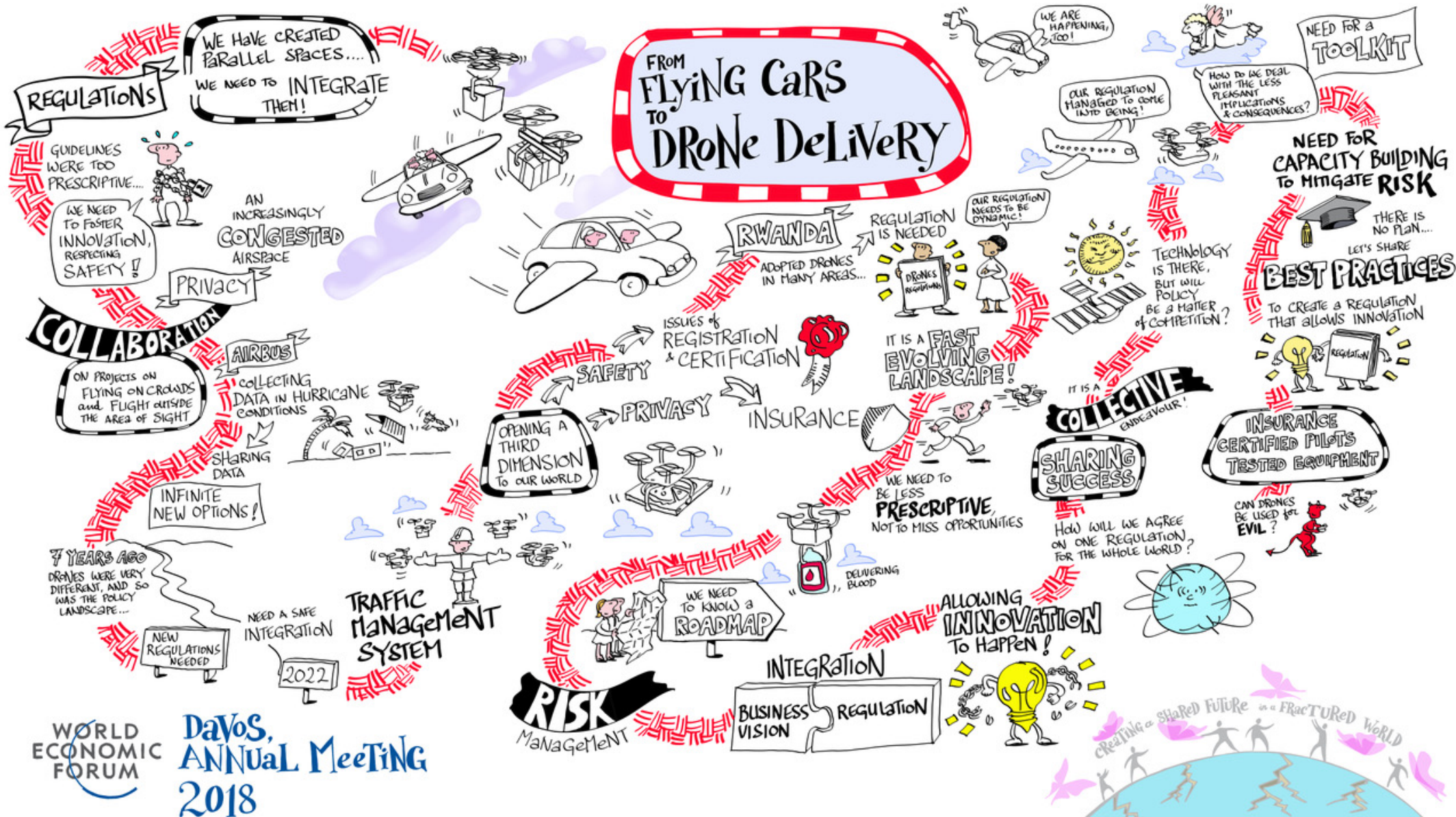
Future of Drones aims to reinvent the use of airspace for the benefit of all people

The advent of autonomous aerial robotics provides a new opportunity to promote the safe, clean and inclusive use of drones for delivery, human transportation and aerial data capture.

PROJECT OBJECTIVES

1 Define a future for autonomous aerial robotics that **maximizes the benefits to society** and mitigates risk

2 Determine the **regulatory environment** needed to achieve that future

3 Identify the **air traffic management infrastructure** required for drone innovation

Key Areas of Technological Opportunity

Drone delivery and logistics

eVTOL personal transport

Aerial imagery

Enabling infrastructure (Digital/Physical)

Policy Challenges
Software & Hardware Certification

Open source or **third party software**, and **machine learning & AI control**, all represent a major challenge to transportation ministries.

Software of unknown origin, identification and tracking liability, reliability performance are next…

How do we address:
 - bogus parts
 - noise/sound concerns
 - privacy issues

.… All present in manned aviation

New Paradigms for Drone Regulation
How can regulators unlock the potential of drones for data, delivery, and transportation?

Goal

Outdated policies are impeding both life-saving and economically impactful uses cases for drone. This project is enabling regulatory innovation to keep pace with technical innovation.

Impact

- Co-Designed and Implemented national drone regulation in Rwanda, now being tested.

- Drone Innovator's Network (DIN) established and the 1st Toolkit is being developed for publication.

- Iteration and Implementation of regulation and policy in second test.

Timeline

- **September 2017:** Government of Rwanda partners with C4IR to co-design new drone regulation.

- **January 2018**: Rwandan cabinet approves new regulation.

- **June 2018:** Drone Innovators Network launch event

- **September 2019:** Broad circulation of updated framework.

Challenges at the International Level
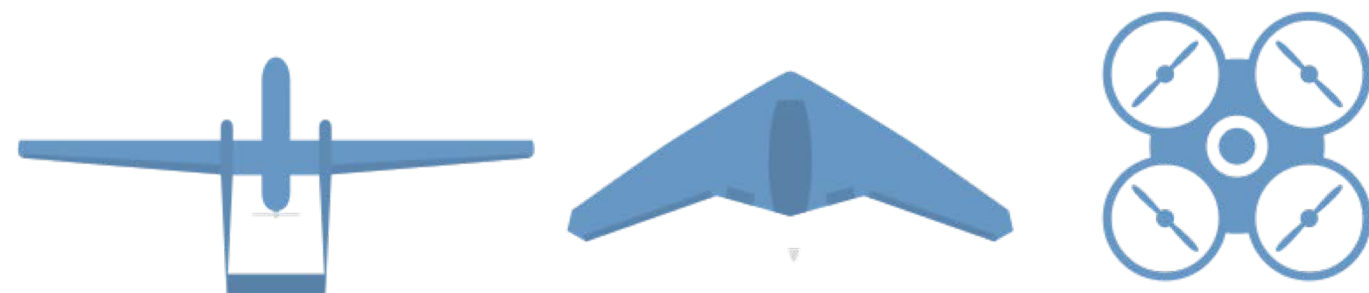## Regulations must be Shaped for the Future

The regulatory environment can be shaped through demonstrated success.

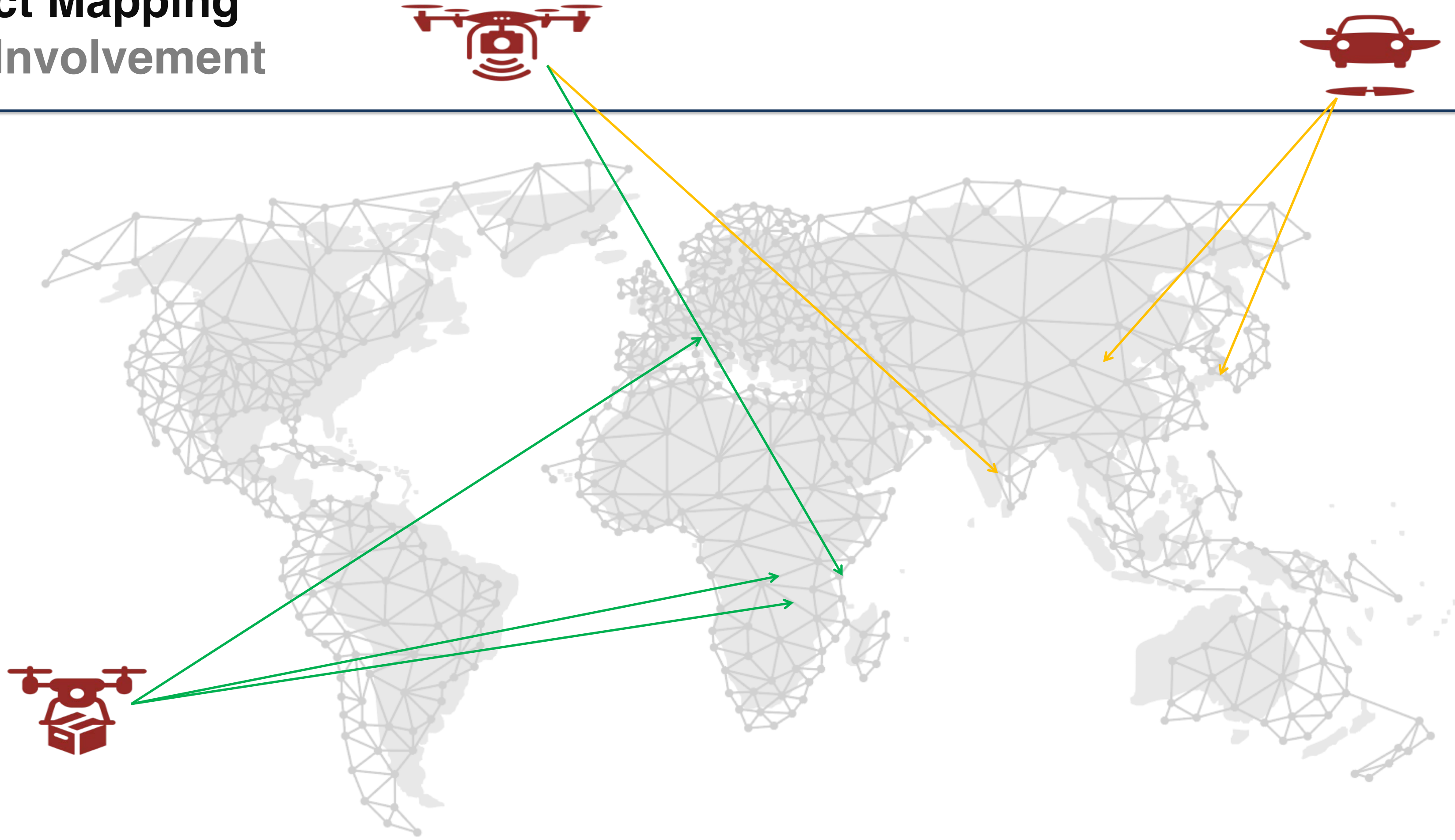Traction at a high level of government drives innovative capacity through institutional change.

You must work to help shape the environment by operating safely.

Holistic risk evaluation can drive openness and adoption.

Project Mapping
WEF Involvement

The Future of Drones and Tomorrow's Airspace

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