The background is a dark blue space scene with a diagonal light blue band. In the bottom left, there is a partial view of Earth, a small satellite (ISS), the Moon, and a small orange planet (Mars).

Socio-Economic Benefits of Space Utilization Study

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Background

- **CSA Mandate:** to promote the peaceful use and development of space, to advance the knowledge of space through science **and to ensure that space science and technology provide social and economic benefits for Canadians.**
- ***Challenge: socio-economic benefits are difficult to quantify***
- In 2014-15, Policy Branch commissioned a “Comprehensive Socio-Economic Impact Assessment of the Canadian Space Sector” that was completed by Euroconsult which traced some key domains of benefits derived from space <http://www.asc-csa.gc.ca/eng/publications/2015-assessment-canadian-space-sector.asp>
- In 2018, Policy Branch commissioned a follow up study that went into further detail to develop tangible socioeconomic metrics.



Study Objectives

1. Quantify and qualify the socio-economic benefits of space utilization activities to Canadians.
2. Major application domains included **imagery (EO)**, **satellite communications (satcom)** and **satellite navigation (satnav)**.
3. Thematic areas under analysis included sovereignty, quality of life, and environmental management.

Topics and Indicators

Six topics assessed throughout the study:

Agriculture



Rural Connectivity



Transport & Logistics



Disaster Management



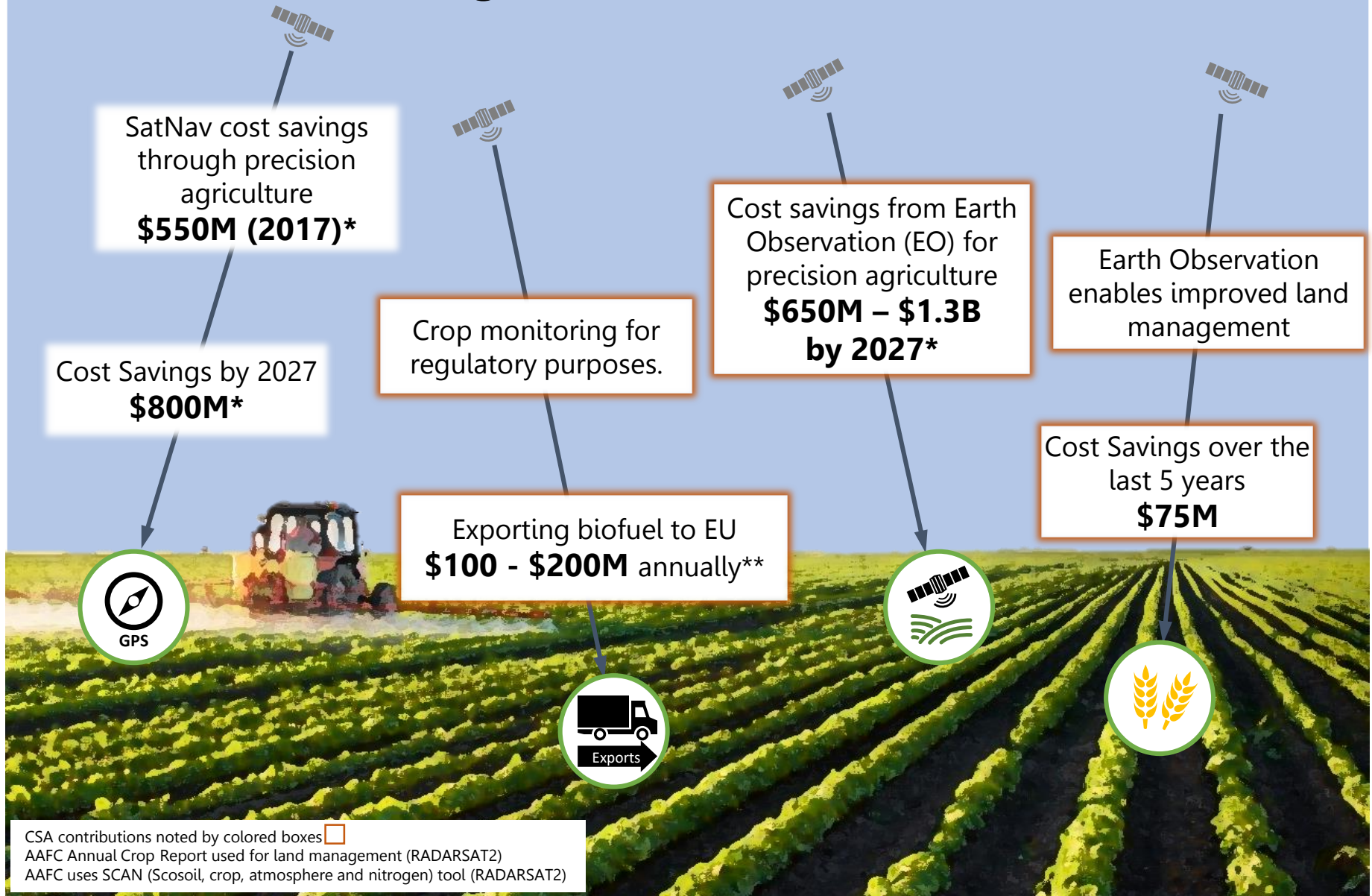
Environment Monitoring



Air Traffic Management



Space Technology Benefits Agriculture in Canada



CSA contributions noted by colored boxes
AAFC Annual Crop Report used for land management (RADARSAT2)
AAFC uses SCAN (Scosoil, crop, atmosphere and nitrogen) tool (RADARSAT2)

**Savings brought by bringing efficiencies to seed, fertilizer, water use, maximizing yield etc.; **Canola crop exports*

Space Technology Benefits Disaster Management & Relief



Supported relief efforts across Canada
2017 Quebec Flooding
2016 Fort McMurray Wildfires

Saved
\$10M/year
in Search and Rescue
Operations


Helped save
32,000+ lives
globally

Helped save
1,500+ Canadian
lives

Contributed 400+
times to international
relief efforts



Space Technology Benefits Environmental Monitoring



Ice charting:
Optimize maritime transport



Monitoring ocean conditions
ARGO Program




Monitoring industry impacts on environment

200+ oil anomalies
detected from shipping
over the last 5 years

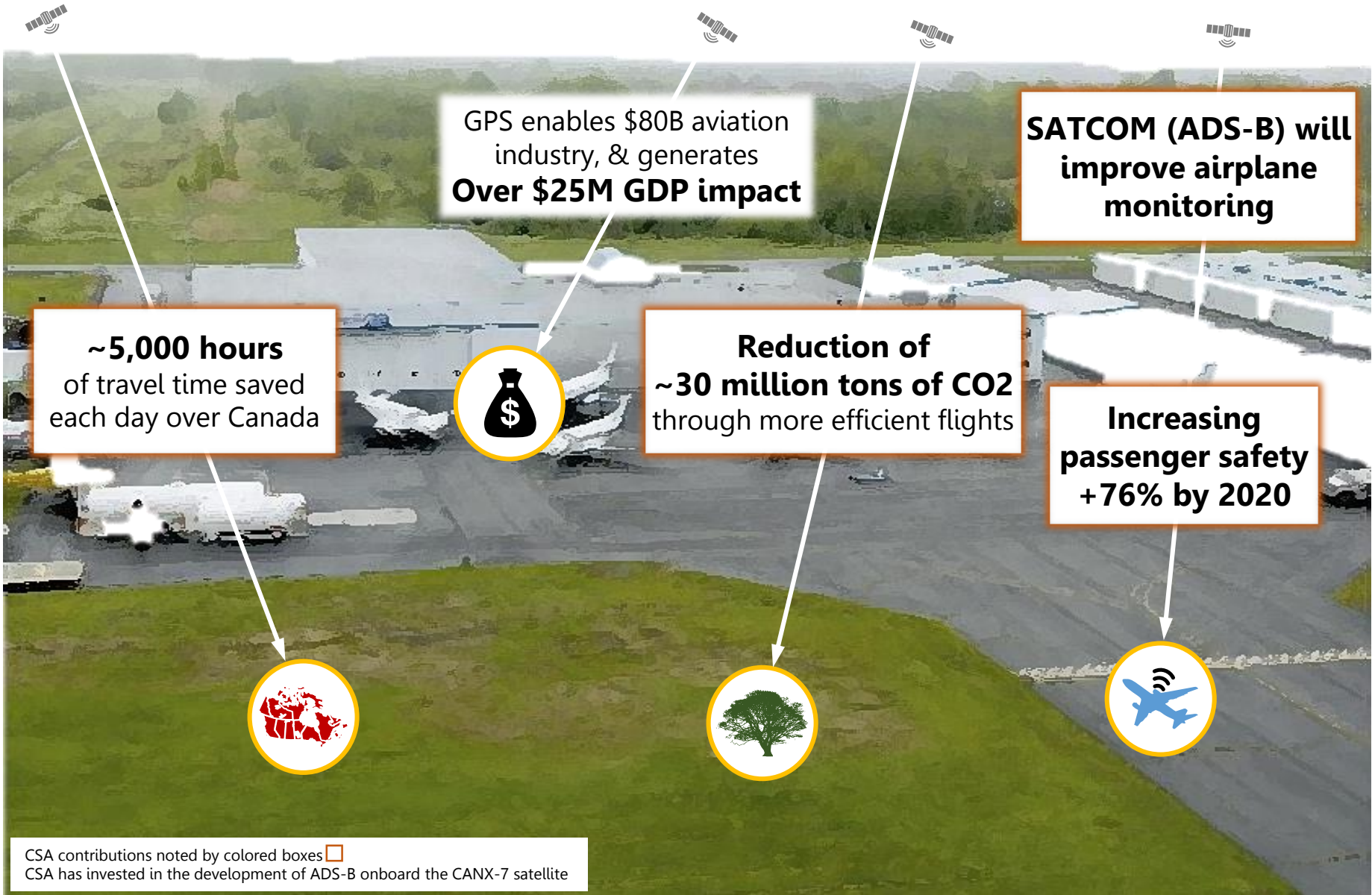
Tool for monitoring
climate change
variables

Monitoring sensitive ecosystems
Identifying areas at risk



CSA contributions noted by colored boxes 
Multiple assets: RADARSAT2 through CIS-I-STOP, ARGO Program, and TerraSAR-X with DLR

Space Technology Benefits Air Traffic Management



Space Technology Benefits Rural/Remote Communities

Distance e-learning programs enabled
**First students
accepted to university**

Satellite broadband contribution to GDP
(2008-2017) \$2.2B

Tele-medicine
to nine first nations
communities

Satellite broadband contribution to GDP
**Additional
(2017-2027) \$2.7B**

**>200,000 rural
households**
with satellite internet
connections



CSA contributions noted by colored boxes 
ANIK F2 a contributing factor to commercial development
CSA invested money with MDA for OneWeb expansion of services in the north

Space Technology Benefits Transport/Logistics and the Internet of Things




AIS for commercial aspects, **security, & safety at sea**




AIS could **prevent vessel collisions with whales**



\$170 million in savings
For the Canadian shipping industry



Over 100,000 downloads
Of health and fitness apps (GPS)



\$2 billion per year potential savings in trucking and logistics

23 million Canadians benefit from GPS-supported apps





Any Questions?

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