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Confederazione Svizzera  
Confederaziun svizra

Embassy of Switzerland in Thailand

# Welcome remarks

*Switzerland and excellence :  
from education, innovation to space !*

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Chargé d'affaires a.i.

Embassy of Switzerland in Bangkok



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# Overview of Switzerland

# A small country in the heart of Europe

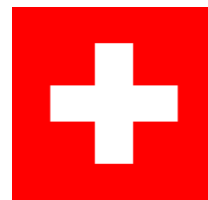
## Location

Situated **in the heart of Europe** and borders France, Germany, Austria, Italy, and Liechtenstein



## Official Name

**Switzerland /**  
Swiss Confederation  
(Abbreviation: CH)



## Population

**8.24 million**

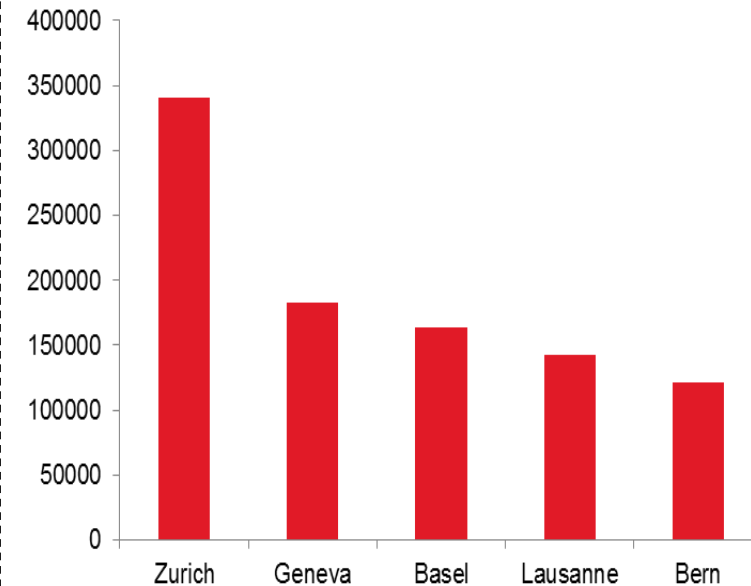
Including approx. 24% resident foreigners. More than two-third of the population live in urban areas

## Economic weight

Switzerland: **19<sup>th</sup> world economy**, global trade hub: **20%** of all commodities are traded here

## Major Cities

Switzerland's biggest city is **Zurich** and its capital city is **Bern**



# Competitiveness Through Innovation



Among the highest density of publications per capita



Greatest density of Top 500 university per million inhabitants



Highest density of Nobel Prizes per capita



3.1% of GDP flows into R&D



Among the highest density of patents per million inhabitants



Swiss start-ups have above-average survival rates compared internationally

**Most innovative country in the world**



12'000 new firms are created every year (Growth: 2%)

# Innovation and Competitiveness Rankings

1<sup>st</sup>

Global Innovation Index 2018



3<sup>rd</sup>

WEF Global Competitiveness Report 2018



## TOP INNOVATORS BY INCOME GROUP\*





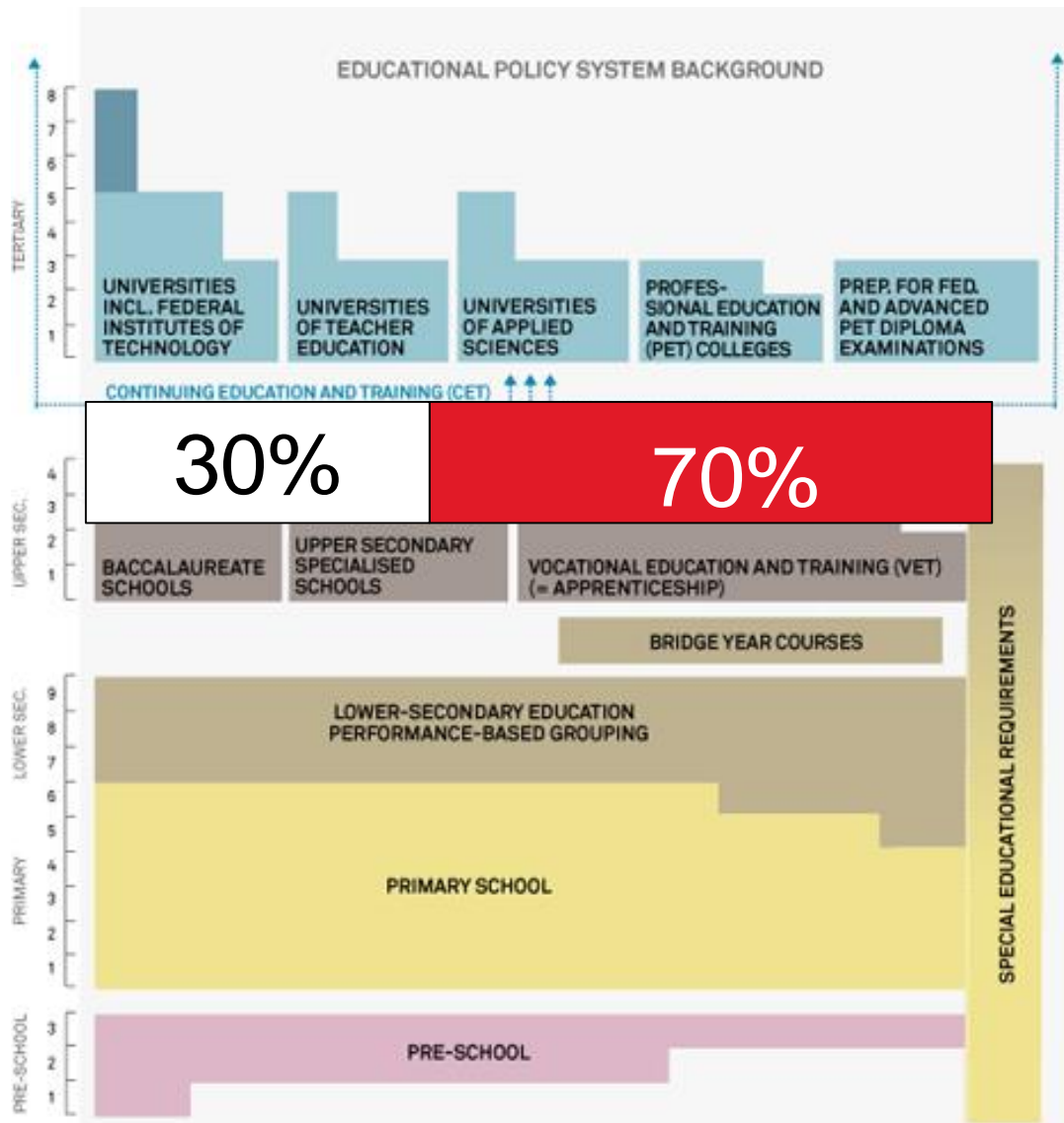
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# Swiss Education System

# Swiss Education System

Majority Choose a VET for the Start of their Career

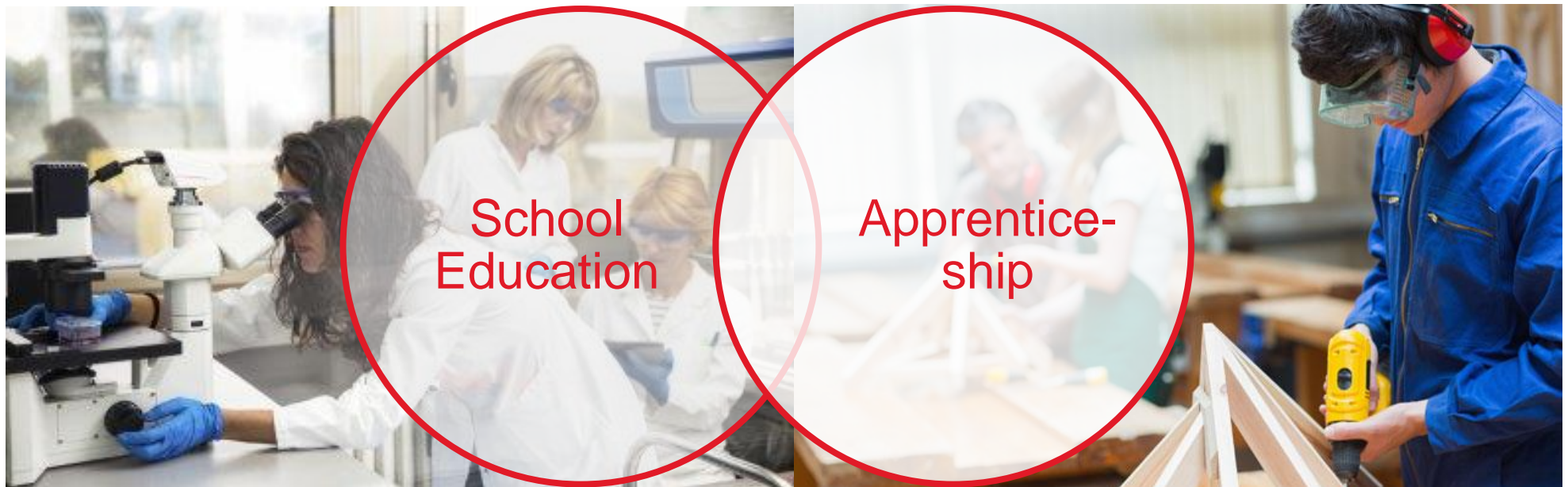


- **70%** of students start a VET after their mandatory school time
- **30%** do a baccalaureate school or an upper secondary school
- many ways to get a bachelor degree at a university or UAS
- students have always the chance to get a university degree



# Swiss Education System

VET: Practical Training combined with Theoretical Education



## VET:

- Theoretical and practical training
- 1-2 days per week to school - During the rest of the week on-the-job training
- Actively take part in the host company's production processes
- Two-side education teaches the apprentice the required skills for the job
- Net-benefit for the employer









# Swiss Education System

Top-Ranked Universities are Spread all over Switzerland



	QS	THE	Academic Ranking of World Universities
<b>ETH</b> zürich	7	11	28
 <b>EPFL</b> ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE	22	35	102
 <b>University of Zurich</b>	78	90	69
 <b>UNIVERSITÉ DE GENÈVE</b>	108	135	55
 <b>Universität Basel</b>	160	103	99

- Offers some of the best universities in the world (ranking of 2018/2019)
- World-class universities attract the best researchers and students
- One reason for the success of Switzerland



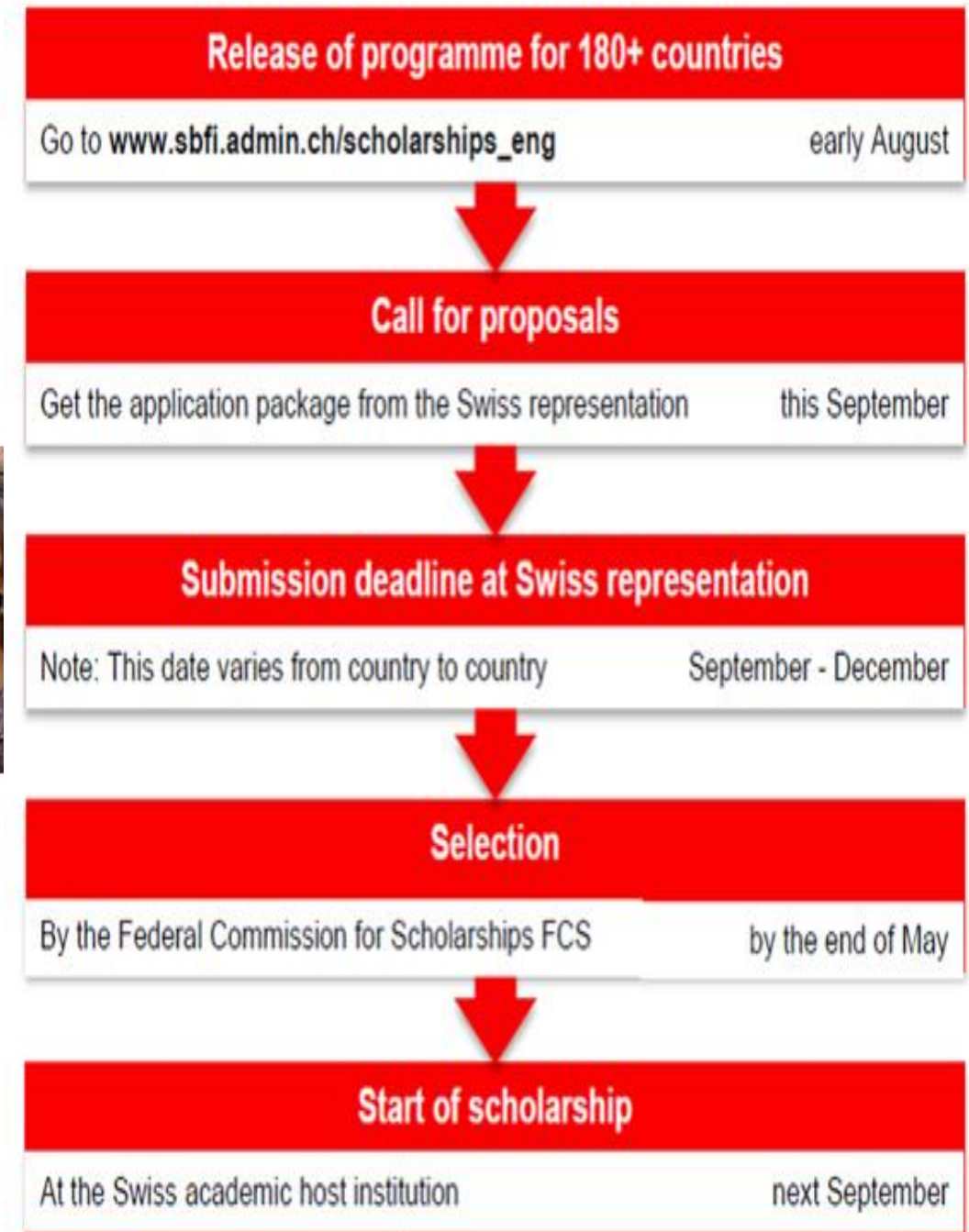
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# Swiss Government Excellence Scholarships for Foreign Scholars and Artists for the 2019-2020 Academic Year



## Application procedure





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# Switzerland in Space





# Swiss Space Policy – 3 Pillars

1. Development and utilization of space infrastructures **to improve the quality of life of our citizens;**
2. Sustainable engagement in research and exploration for the **benefit of innovation and the knowledge society;**
3. Switzerland – **a competitive and reliable partner**

*Switzerland promotes its interests through targeted cooperation, mainly through its participation in the European Space Agency*



Switzerland is a founding member of the European Space Agency – ESA



# Swiss Space Budget in R&D

Budget 2018: ~ 180 Mio. USD

- 95% ESA
- 5% Complementary National Activities

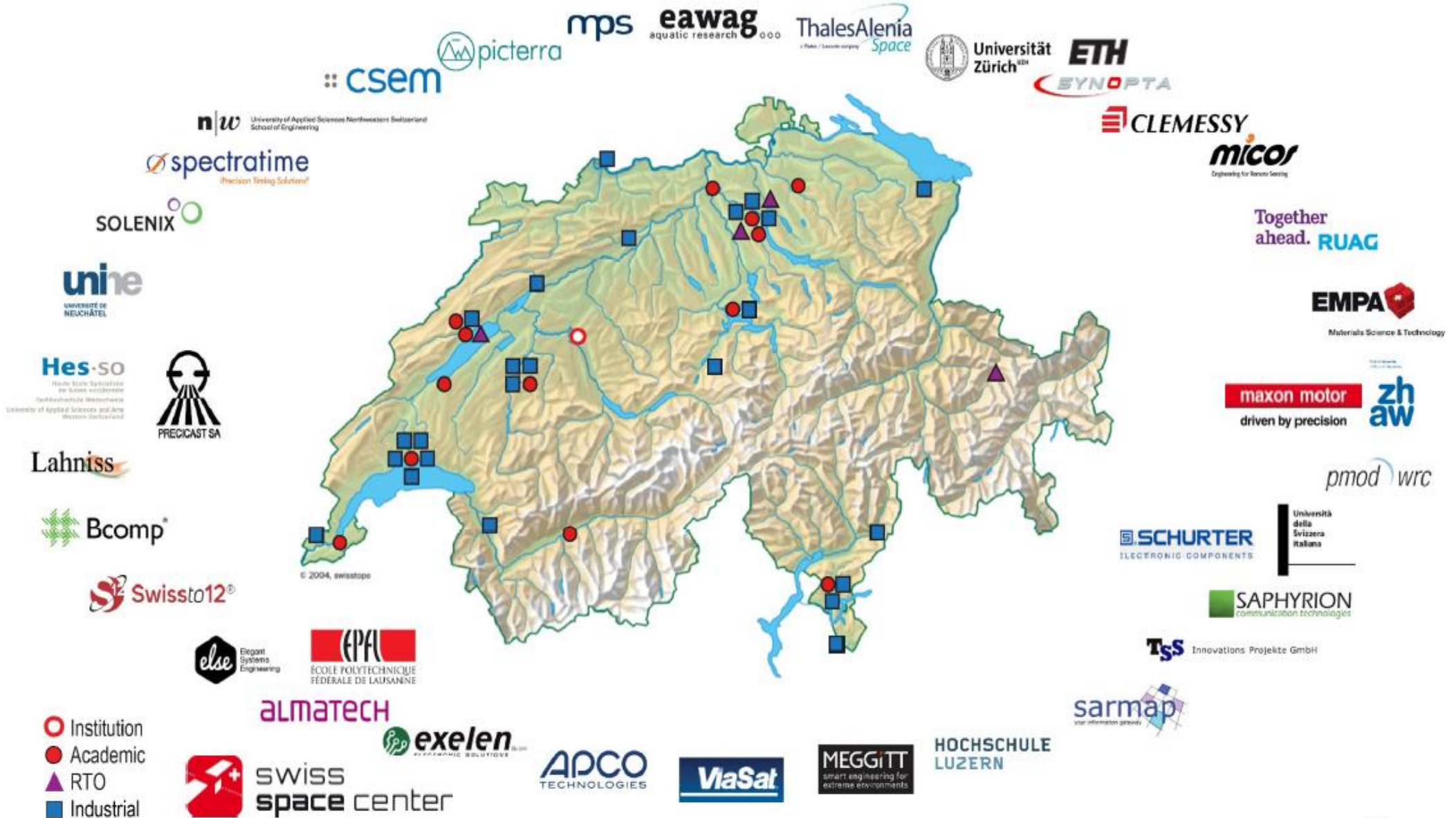


Participation in ESA secures for Switzerland:

- Access to procurements
- Access to data
- International collaboration



# Swiss space community





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# Swiss excellence in Space Sciences and Technologies



Access to space and space exploration



Space sciences and earth observation



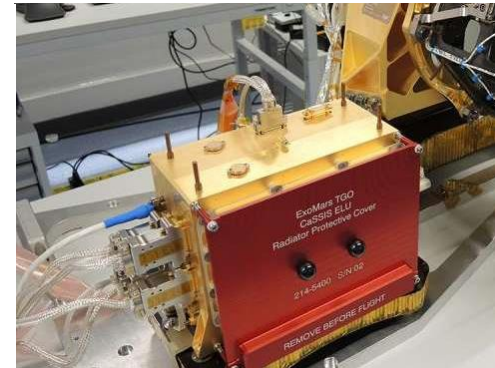
Satellite and ground segment products/services



High precision manufacturing of  
 space structures



Atomic clocks



Photonics



Scientific instruments





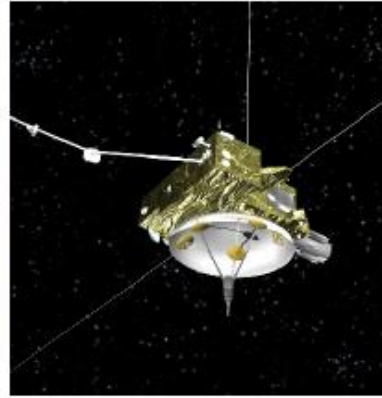
# 50 years of instruments contributing to space science



Apollo - SWC



Giotto - IMS



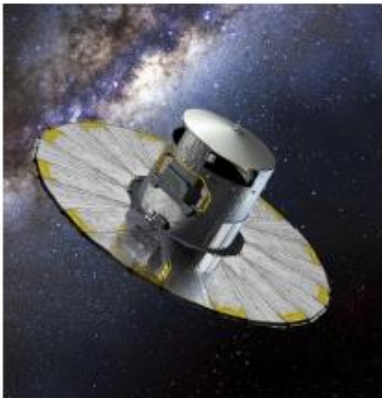
Ulysses - SWICS



SOHO - various



Integral - ISDC



GAIA – DPAC CU7



Exomars - CaSSIS



DAMPE Consortium



Bepi Colombo - BELA



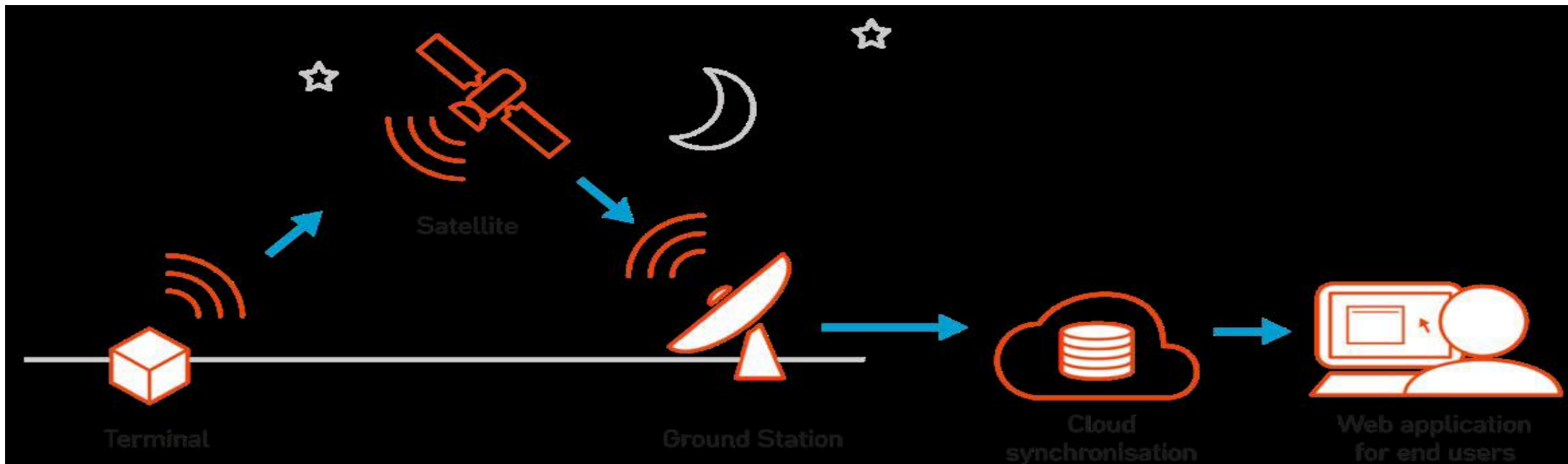
CHEOPS

... and many others <sup>8</sup>

# *One recent example: Swiss industry and nanosats*

**Astrocast SA**, in partnership with the European Space Agency, Airbus and Thuraya, is developing the 1st advanced nanosatellite IoT network

- *64 cubesats constellation in Low Earth Orbit*
- *Global coverage*
- *Low cost modules and data plans*
- *Optimized for IoT applications*
- *Communication efficiency thanks to optimized data protocol (patented)*
- *Secure communication using encryption*





## Conclusion: Switzerland in Space

- Switzerland a **competent and reliable** partner with strong **international orientation**
- Over **50 years** of heritage in space science and technology
- **Competitive niche player** in academia and industry with unique capabilities at global level
- Focus on **innovation, excellence, quality**



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Thank you for your attention and  
wishing you a successful Forum !

