

# SOL Project



## Application of optical disc technology

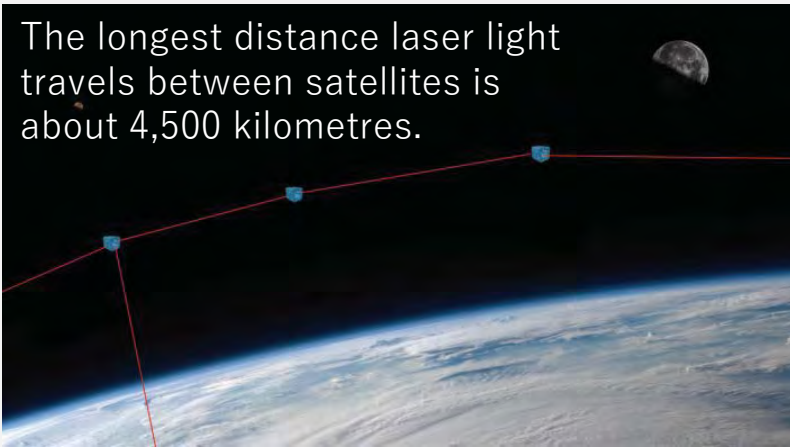
Optical disc technology is being used for space communications.

## Collaborative project



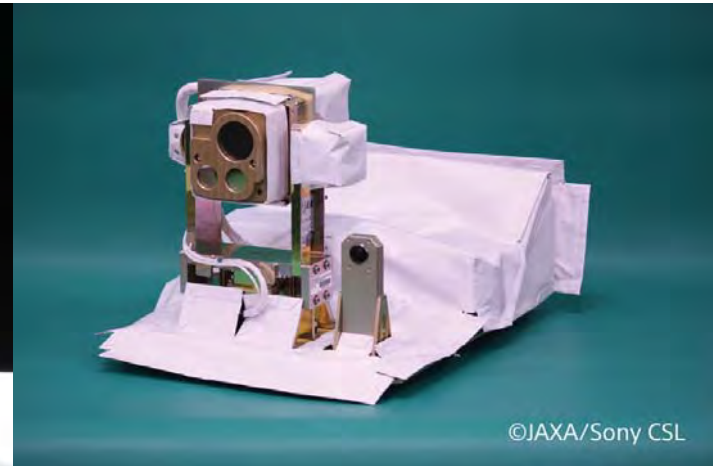
## To Construct Cybernetic Earth Infrastructure

The longest distance laser light travels between satellites is about 4,500 kilometres.



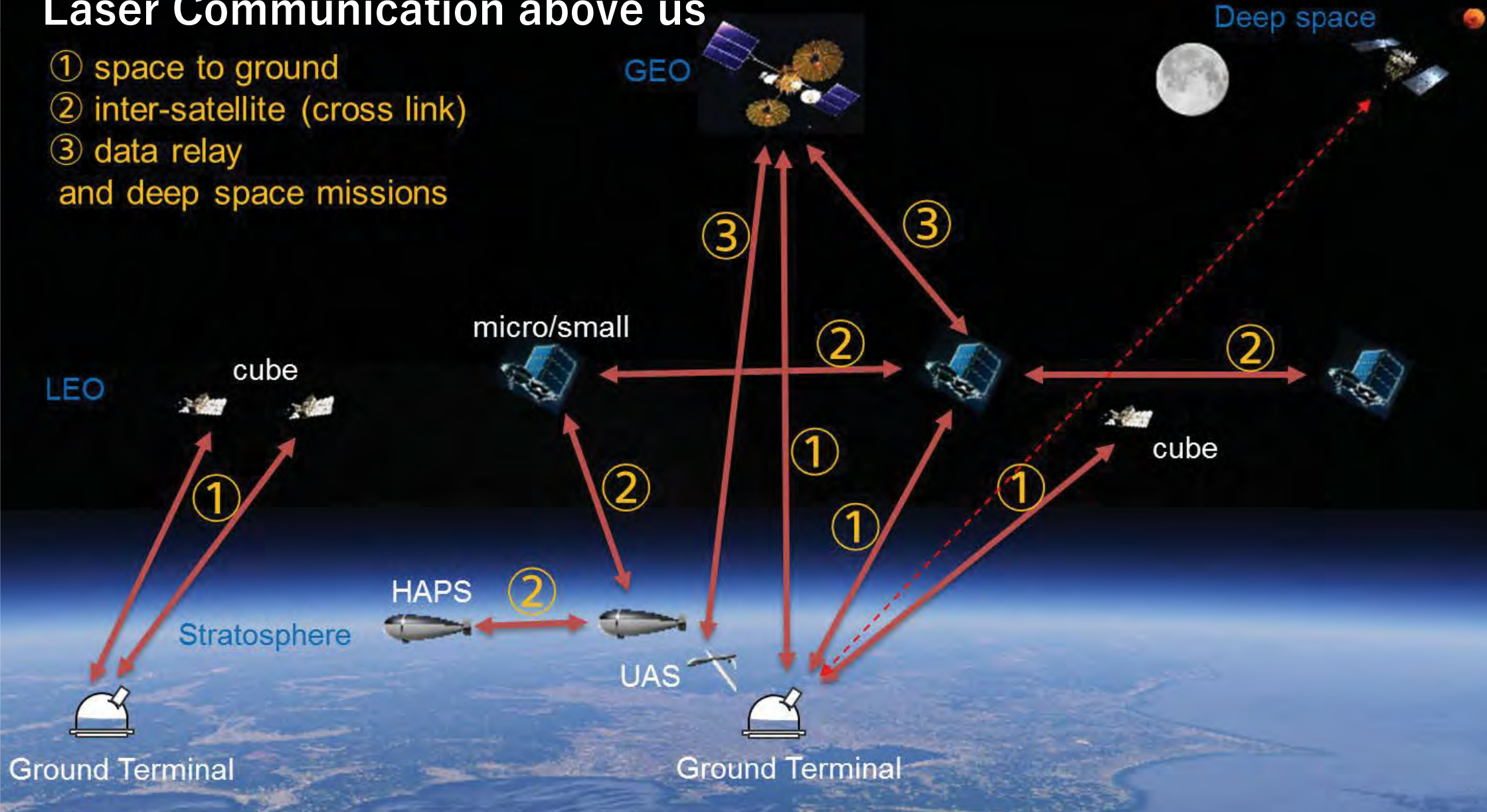
In 2019,  
Feasibility Study in ISS  
(International Space Station)

# SOLISS (Small Optical Link for ISS)



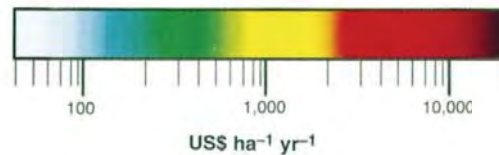
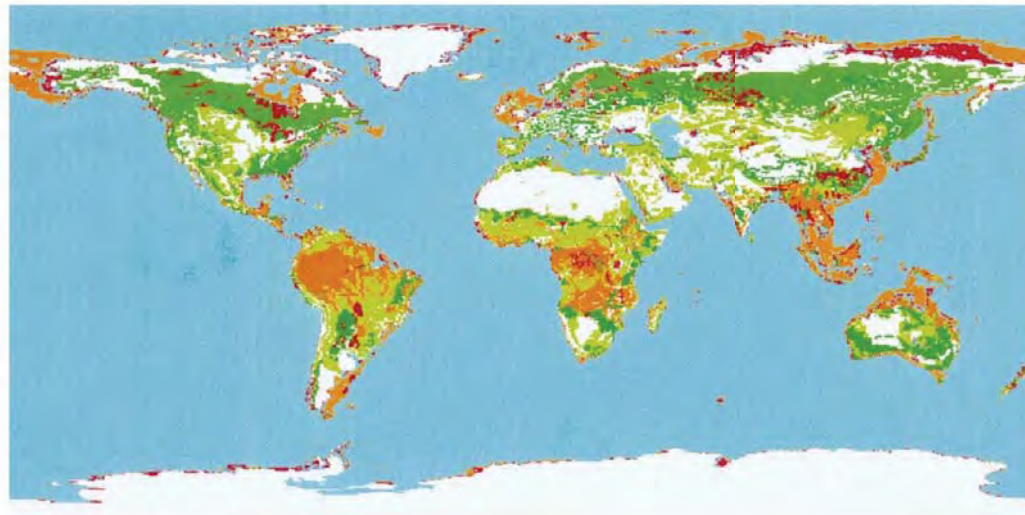
# Laser Communication above us

- ① space to ground
- ② inter-satellite (cross link)
- ③ data relay and deep space missions



# The value of the world's ecosystem services and natural capital

Robert Costanza<sup>\*†</sup>, Ralph d'Arge<sup>‡</sup>, Rudolf de Groot<sup>§</sup>, Stephen Farber<sup>||</sup>, Monica Grasso<sup>†</sup>, Bruce Hannon<sup>¶</sup>, Karin Limburg<sup>#☆</sup>, Shahid Naeem<sup>\*\*</sup>, Robert V. O'Neill<sup>††</sup>, Jose Paruelo<sup>‡‡</sup>, Robert G. Raskin<sup>§§</sup>, Paul Sutton<sup>||||</sup> & Marjan van den Belt<sup>¶¶</sup>



Nature, 387, 15 May, 1997

# Smart Cityの失敗から、Resilient and Symbiotic Citiesへ

Smart cityは、サプライサイドのロジックで設計されているのが失敗の要因  
→ 住民への明確な価値が提供できていない

## Resilient and Symbiotic Cities

Pandemic-Readyであり、Resilientな街

→ 安心・安全という明確な価値を提供できる可能性がある。

生物学的多様性の最大化、Short Supply Chain、Grid-independence

→ 中長期的な安定性、安全などを提供できる可能性がある

最高水準の医療と教育の提供

→ 生活水準のさらなる向上