

Matthew Cosby

Goonhilly Earth Station Ltd

The logo for the UK Space Conference 2017 is a circular emblem with a red, white, and blue striped border. Inside the circle, the text "UK SPACE" is written in a large, bold, white sans-serif font. Below it, "CONFERENCE" is written in a smaller, white sans-serif font, and "2017" is written in the same font size as "CONFERENCE".

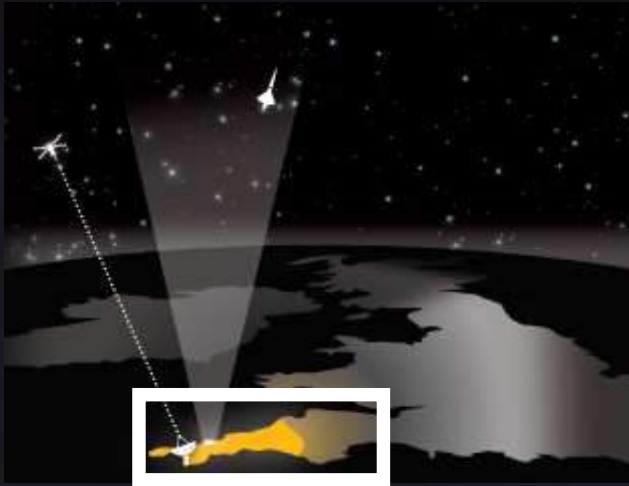
UK SPACE
CONFERENCE
2017

#UKSPACE2017

Introduction

- Chief Scientist at Goonhilly Earth Station Ltd
- UK Space Agency representative & Deputy Vice-Chair on Link Layer Protocols within Consultative Committee on Space Data Systems (CCSDS)
- UK Delegate for Interagency Operations Advisory Group (IOAG)

Goonhilly Earth Station



Located on the far South West coast of the UK our position is ideal for many forms of space communication.

The site benefits from very low Radio Frequency Interference



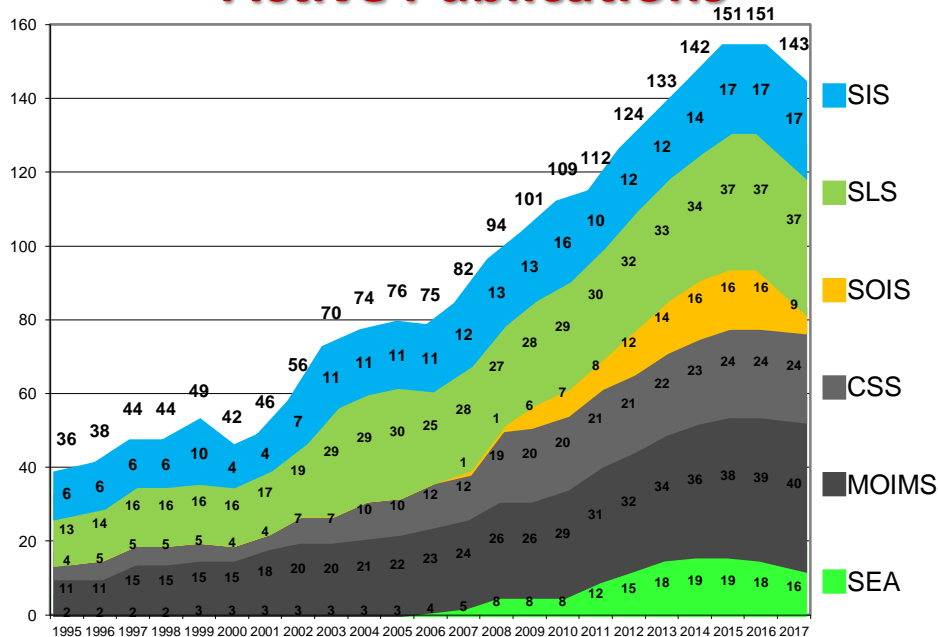
Goonhilly Earth Station



GOONHILLY
EARTH STATION

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Active Publications



Currently Active

Publications: **143**

Normative (Blue & Magenta): **85**

Informative (Green): **58**

Downloadable for free

from www.ccsds.org

All major pubs since

1982: **~336**

(Some were historical mission needs or superseded technology)

825 space missions have adopted and used various CCSDS standards

CCSDS Overview

End-to-End Architecture

Systems Engineering

- ◆ Security
- ◆ Delta-DOR
- ◆ Timeline Data Exchange
- ◆ XML Standards and Guidelines

Typical Mission Profile



Spacecraft Onboard Interface Services

- ◆ Onboard Wireless WG
- ◆ Application Supt Services (incl. Plug-n-Play)

Space Link Services

- ◆ RF & Modulation
- ◆ Space Link Coding & Sync.
- ◆ Multi/Hyper Data Compress.
- ◆ Space Link Protocols
- ◆ Next Generation Uplink
- ◆ Space Data Link Security
- ◆ Optical Coding and Mod

Cross Support Services

- ◆ CS Service Management
- ◆ CS Transfer Services
- ◆ Cross Supt Service Arch.

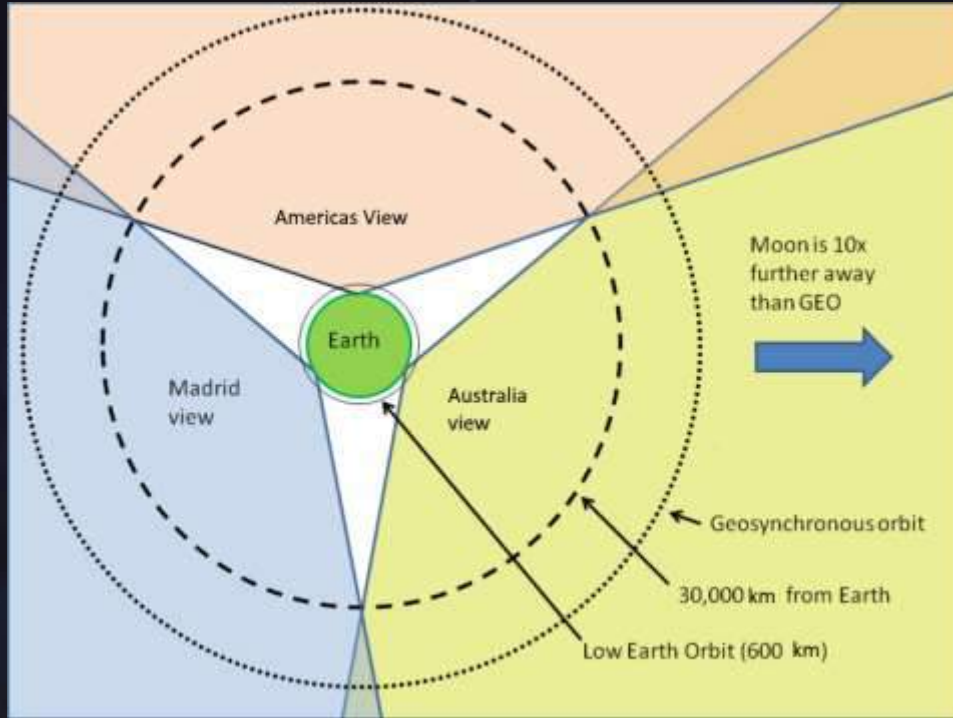
Space Internetworking Services

- ◆ Motion Imagery & Apps
- ◆ Delay Tolerant Networking
- ◆ Voice
- ◆ CFDP over Encap
- ◆ CFDP Revisions

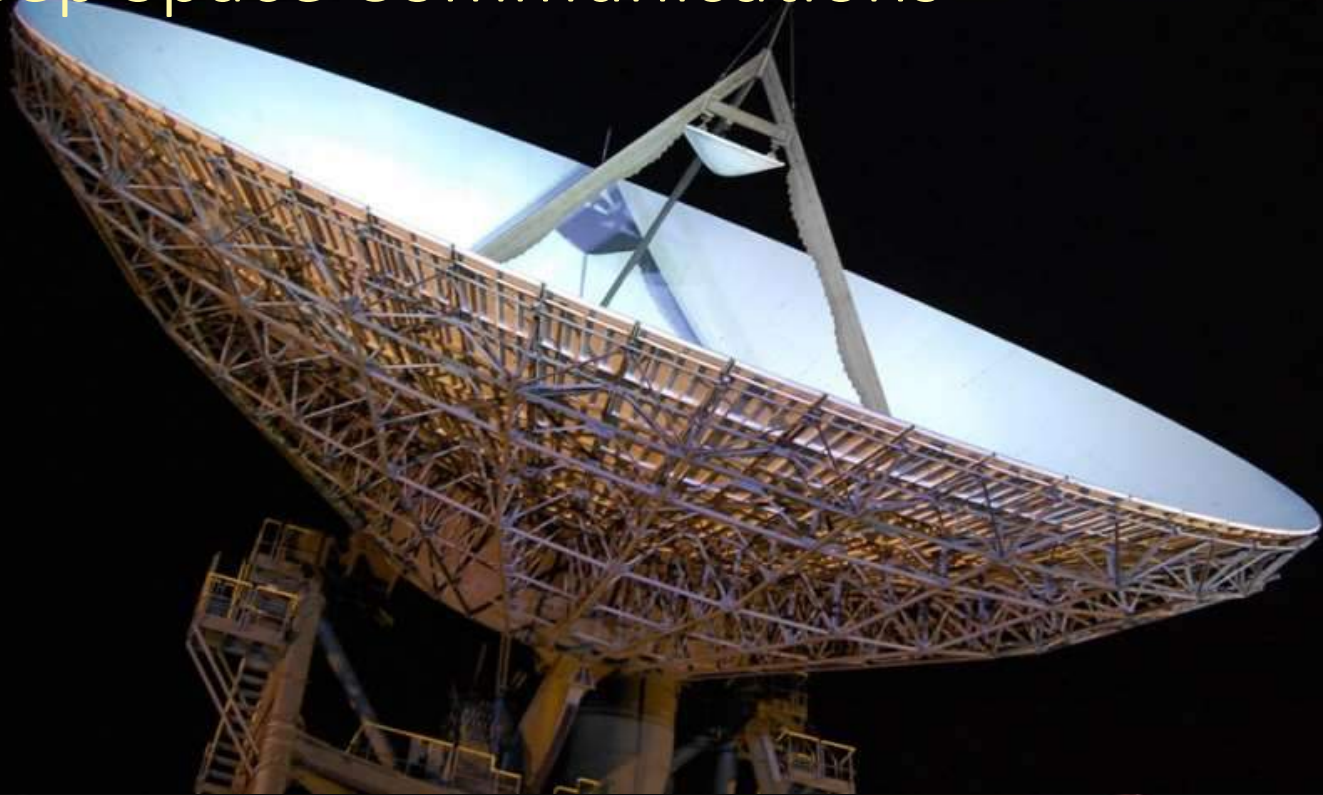
Mission Ops & Info Mgt Services

- ◆ Data Archive Ingestion
- ◆ Navigation
- ◆ Spacecraft Monitor & Control
- ◆ Digital Repository Audit/Certification
- ◆ Telerobotics

Deep Space Network (DSN / DSA)



Deep Space Communications



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- Global stage for Cornwall & UK
- First private DSN / DSA station

Lunar pathfinder mission



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Internet in space



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Summary

- Standards aid interoperability
- Enables access to a growing market
- SMEs can be part of this market

*Standards can help you grow your business.
Being involved in the development gives
your company the edge.*