



Driving the future of LEO & UAV communications with YTTEK

Jiangson Chen
CEO, YTTEK Technology



A futuristic landscape with a dark, rocky terrain under a twilight sky. Several drones are flying in formation across the sky. The scene is overlaid with a complex digital interface consisting of green and red lines, arcs, and data points, suggesting a high-tech or military environment. A bright, glowing orange and yellow energy burst is visible on the left side of the image.

The next battlefield: sky & space

Signals are under attack

Taiwan has about 15 international submarine cables, 7 of which are broken.

Broken cables

台灣對外連線狀況

8

正常

7

斷線

15

總計

A black and white photograph showing a person's hands holding a drone controller. The person is wearing camouflage pants. In the background, a drone is flying in the sky. The scene is set in an urban environment with buildings and a fence visible. The text "The invisible threats exist in war" is overlaid in the center of the image.

**The invisible threats
exist in war**

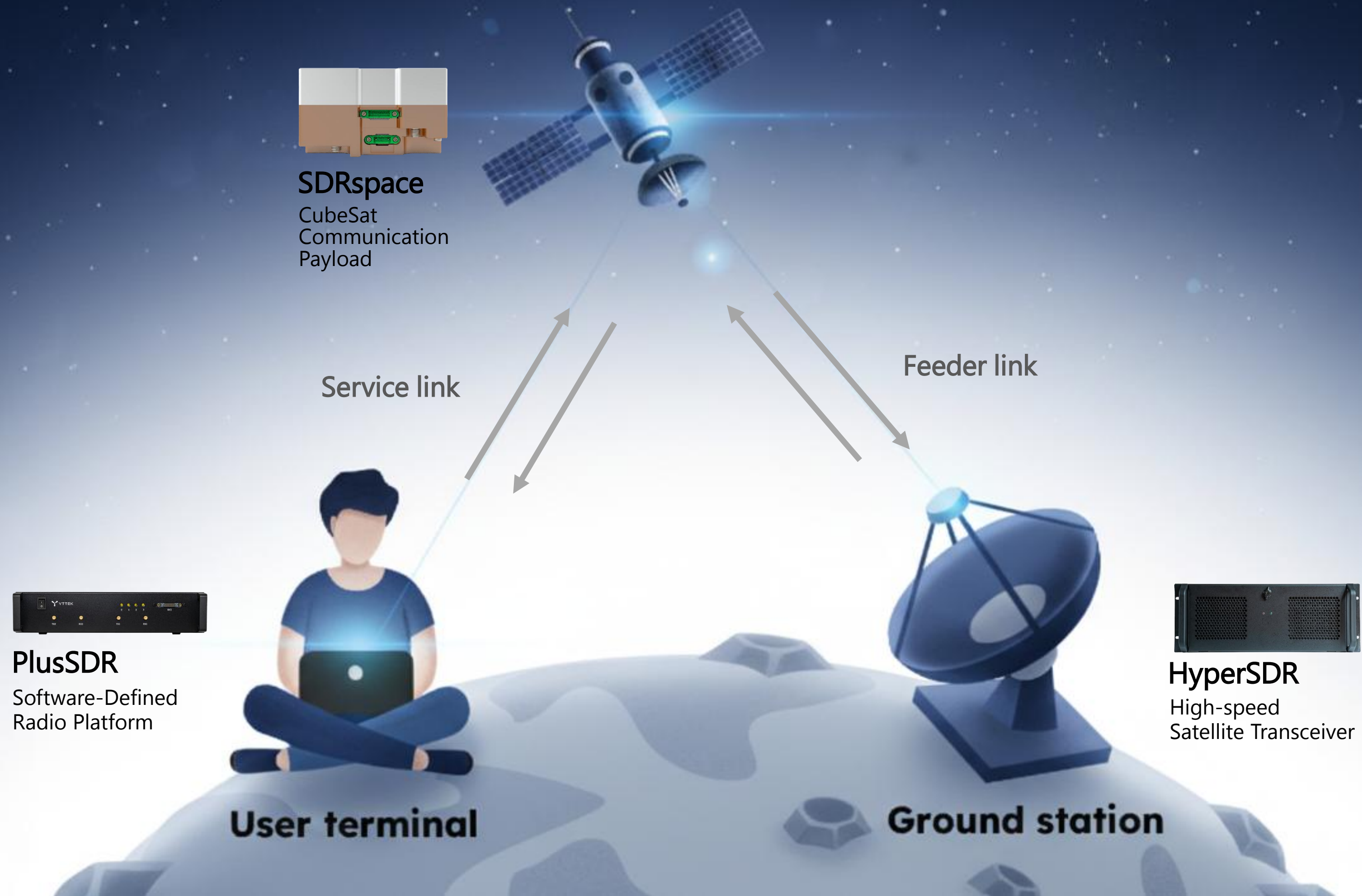


and natural disasters

Satcom under pressure

Challenges & Solutions

Resilient satcom architecture





The answer is right here.

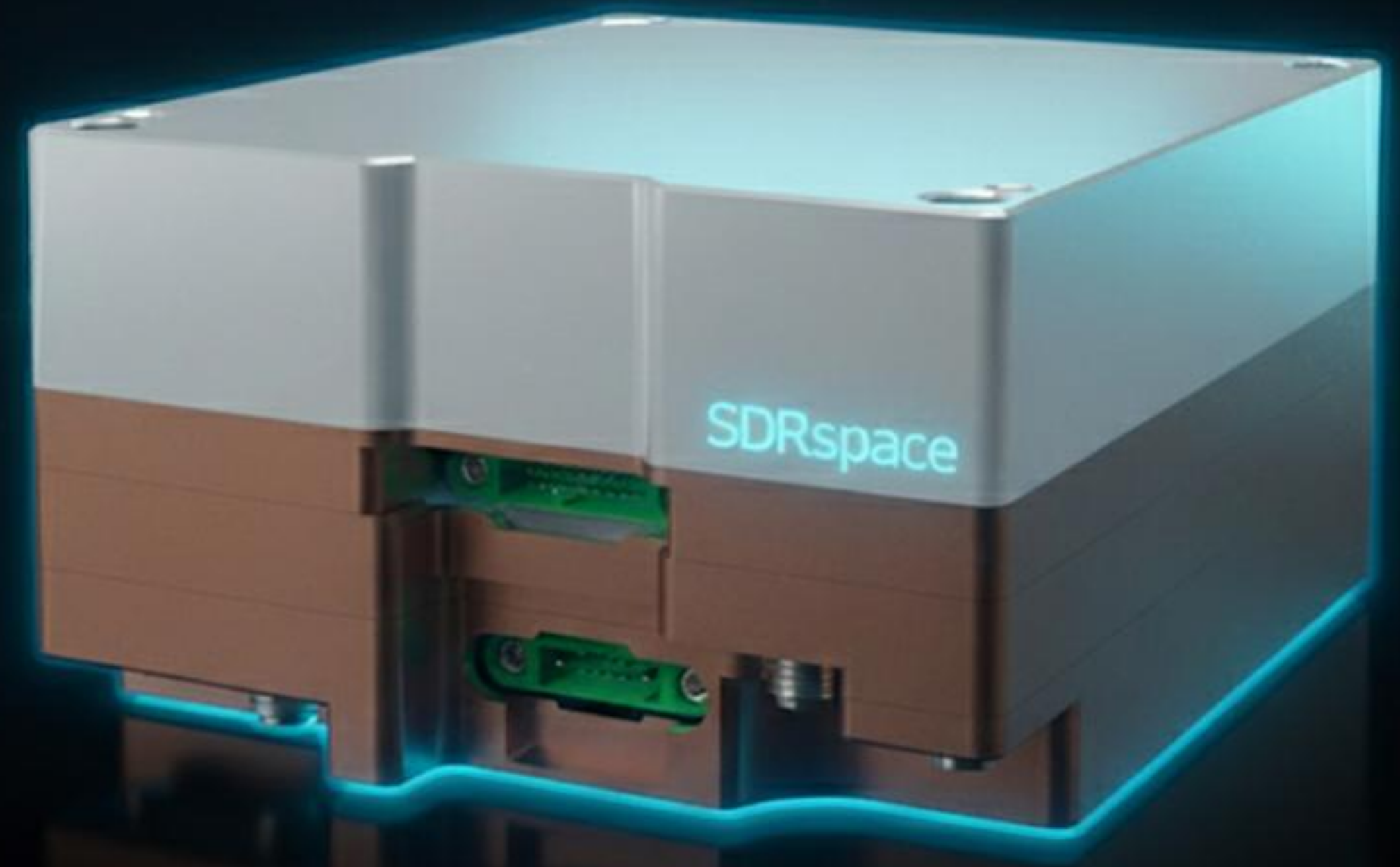
LEO payload: Where the challenge lies



SDRspace

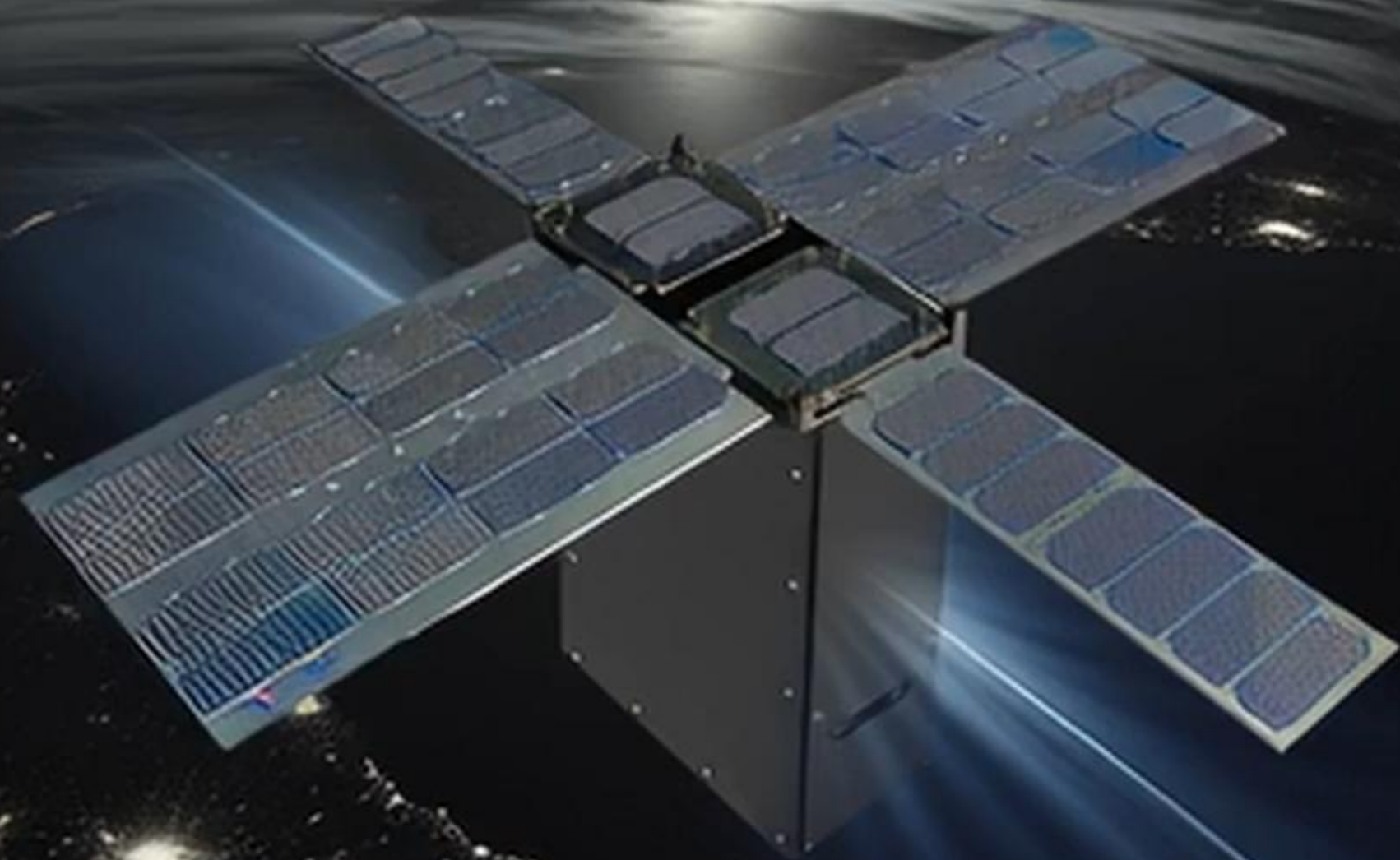
Satellite communication
payload

- X / Ku
- Ku / Ku
- K / Ka



Launching 2026

to secure our flight heritage



HyperSDR

High-speed satellite transceiver

2.4 Gbps

ultra-fast
throughput
per channel




TASA 1B LEO Communication Payload

工商時報 即時 > 要聞 > 證券 > 金融 > 理財 > 產業 > 房市 > 國際 > 兩岸 > 言論 > 樂活 >

低軌衛星通訊研發再進階 円通科技推動 B5G 關鍵模組落地

2026.01.16 / 16:44 / 工商時報 文 / 李翹樑

#円通科技 #TASA #CesiumAstro #低軌衛星



円通科技搶進 B5G 低軌通訊衛星國家隊，助攻台灣太空通訊自主化。圖 / 円通科技提供

隨著低軌衛星成為新世代通訊關鍵基礎建設，台灣亦加速布局B5G 低軌衛星通訊自主能力。國家太空中心（TASA）推動的「Pathfinder 通訊酬載基頻模組雛型體開發」計畫，自今年6月完成決標後，研發進程持續推進。由無線通訊領導廠商円通科技（YTTEK）承攬之關鍵通訊模組，近期已完成關鍵設計階段，正式進入原型.實作與驗證階段。

國家太空中心
決標公告

標案案號	TASA-P-1140273
標案名稱	Pathfinder通訊酬載基頻模組雛型體開發
標的分類	財物類
採購金額	新臺幣 49,800,000 元
採購金額級距	公告金額以上未達查核金額之採購
預算金額	新台幣 49,800,000 元
招標方式	公告招標
決標方式	評審標
招標狀態	第1次公告 第0次修正
聯絡人	古先生
電話	(03)5784208轉6707
傳真	(03)5784234
電子郵件信箱	kuku@tasa.org.tw
招標單位地址	新竹市科學園區展業一路9號8樓
決標日期	民國114年 06月 26日
底價金額是否公告	底價公開
底價金額	48,894,762
決標金額是否公告	決標金額公開
決標金額	48,894,762
得標廠商名稱	円通科技股份有限公司
附加說明	
新增/更正日期	民國114年07月08日 08時32分



Mission-Proven

Successfully decoded signals from
TASA's Formosat-5.



But what about here on earth?

UAV missions under threat

Challenges & Solutions

建立無人機隊

TVBS新聞台 HD



畫面翻攝Youtube



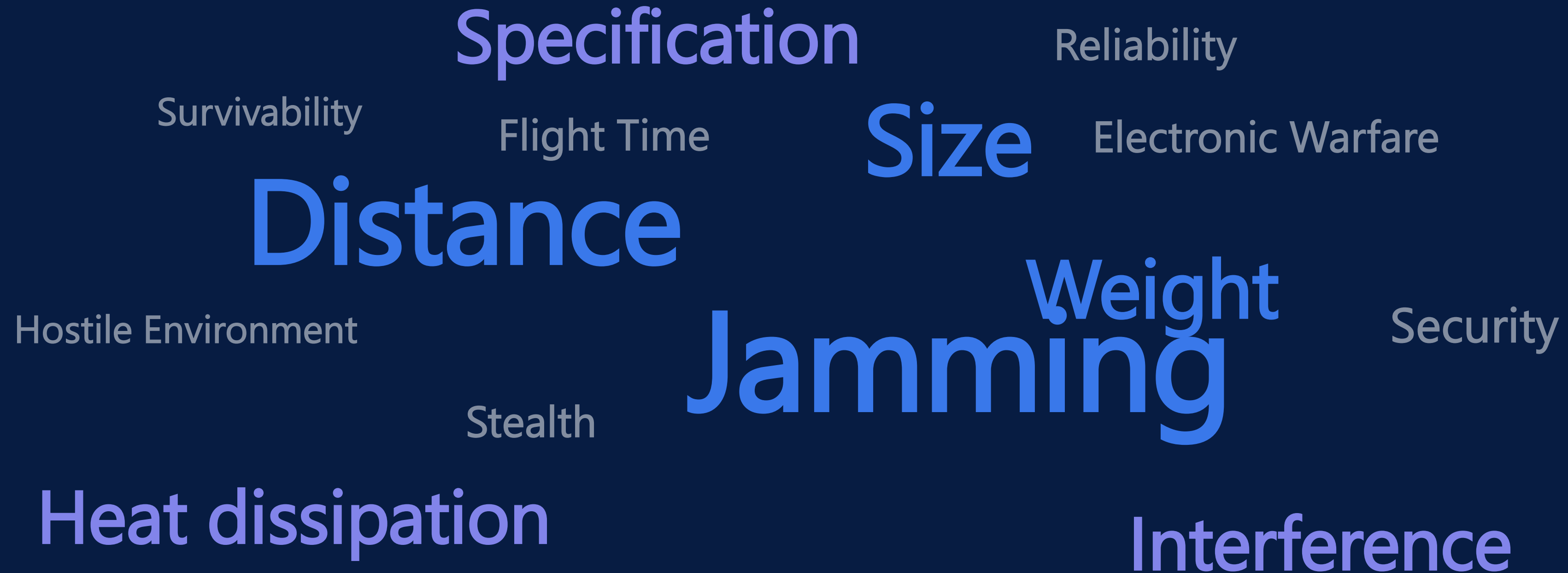
掃描訂閱TVBS NEWS

台北



蜂群攻擊.戰術偵查 無人機宰制未來戰場?

Challenges for UAV communication payload



How UAVs operate



GPS

GPS

1176.45 MHz, 1227.6 MHz,
1575.42MHz



UAV

COFDM Video
5.8 GHz, 4.9 GHz



UAV Control
2.4 GHz, 5.8 GHz,
915 MHz, 433 MHz

COFDM Video
5.8 GHz, 4.9 GHz



UAV Control
2.4 GHz, 5.8 GHz, 915
MHz, 433 MHz



Ground control station

When UAV signals face jamming



By jamming communication signals
it forces drones to either
fall, return to base or...

Counter-UAV systems

From individual to system-level equipment



5-10W

Handheld jammers

High-power RF amplifiers for close-range, rapid response scenarios



10W-100s W

Fixed/Vehicle systems

High-power transmitters integrated with radar, optical sensors for permanent security

UAV jamming & defense

Definition: Overwhelming target signals with high-power RF transmission, disrupting normal operations



Control link disruption

UAV loses operator command authority



Video feed interference

Operator loses first-person view capability



GPS spoofing/jamming

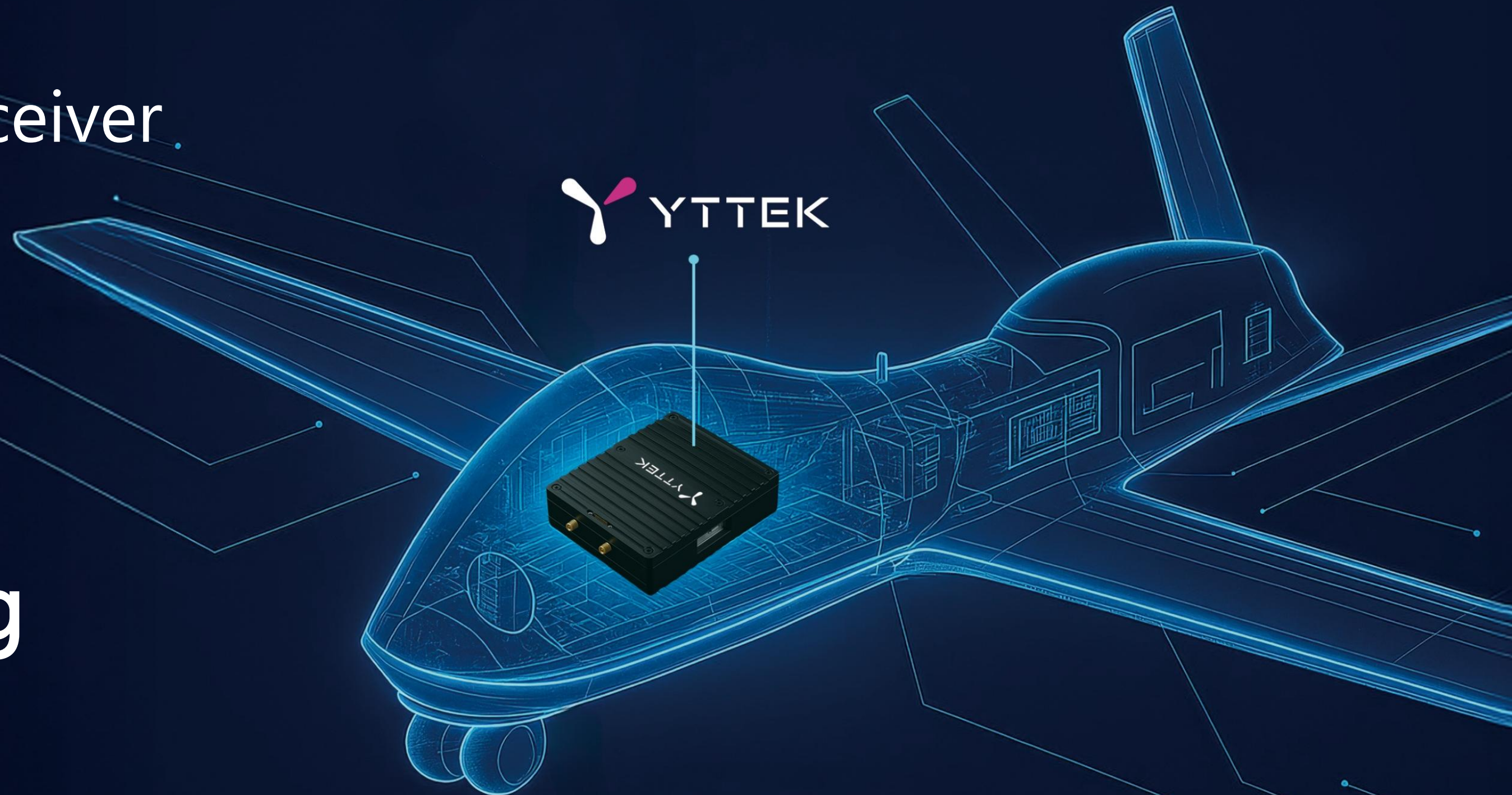
UAV loses precise positioning, causing navigation failure

SDRone

UAV communication transceiver.



- | Operating band
960 – 1215 MHz
- | Frequency switching
30 MHz – 6 GHz



Taiwan's first


SDR-based
Anti-jamming
UAV communication



2024 US-Taiwan International Forum
on Unmanned Vehicle Technologies & Application



Unmanned Vehicle Technologies & Application



YTTEK
円通科技

tomorrow's wireless, today

About Yttek Technology Corp.
YTTEK, your best partner to develop and validate your communications products. In the range of algorithm design, channel measurement, arbitrary waveform generation, signal analysis, wireless verification and field measurement, we provide you with the most flexible and affordable development and verification solutions.

Algorithm Optimization

- Architect design
- Algorithm
- System integration

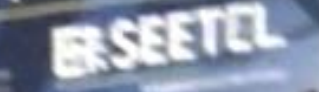

FPGA / SOC BB Implementation

- SDR platform
- SDR payload
- High-speed satellite modem

Novel Antenna Design

- No. Ku-band Antenna Array for Ground Terminal

Major Sponsors



YTTEK : Wireless communication SDR expert

SDR Platform

PluSDR



SDR Platform

- 400 MHz, 10M-15GHz
- Matlab, C++, Python
- compliance

PluSDR



SDR Platform

- 100 MHz, 300M-6GHz
- Matlab, C++, Python
- compliance

PluSDR Lite



SDR Platform

- 100 MHz, 300M-6GHz
- 134.7 x 86 x 45.6 mm, 270g

SATCOM

HyperSDR

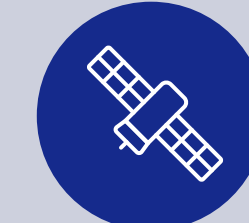


Satellite Ground Station Modem

- 400 MHz, 10M-15GHz
- CCSDS / DVB-S2
- Edge computing
- TASA Approved



SDRspace



Satellite Communication Payload

- X / Ku-Band
- Ku / Ku-Band
- 0.6U (10 x 10 x 6 cm³)



UAV

SDRone Uno



UAV Communication Module

- L-Band, ISM band
- Singal band



SDRone Duo



UAV Communication Module

- L-Band, ISM band
- Dual band

SDRone Vario



UAV Communication Module

- Multiple band switching

SDRone Swarmio



UAV Communication Module

- L-Band, ISM band
- Swarm, Ad-Hoc typology





SDR Experts

- SDR powers our innovation
- 2026: Satcom payload launch — flight heritage secured
- TASA mission-proven satellite transceiver
- Taiwan's first SDR anti-jamming UAV communication transceiver



Question & Discussion

Email : jiangson@ytttek.com
www.ytttek.com

