

Taking IoT Further

Company presentation



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High-level introduction

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Huge IoT market with attractive non-urban niche for satellite coverage Unmatched combination of technologies astrocast Customer demand justifying launch of full 100 satellite constellation Strong competitive edge driven by low capex, low operating cost and global coverage Seasoned management team with strong track-record in Space and IoT

Why satellite IoT? Global coverage at low cost!



Source: Lora Alliance (2019) – Global cellular systems coverage & London Economics (2019) – Nanosatellite Telecommunications: A Market Study for IoT/M2M applications. LoRa Alliance analysis does not include data for certain countries, notably China

Cellular systems cover roughly 10% of the world's surface area; LPWANs cover only a fraction of this

Astrocast reduces major cost gap between terrestrial and satellite IoT



Astrocast racing down the cost curve unlocking massive IoT market opportunity

Commercial launch in January 2021

24 January 2021 launch

First 5 commercial satellites launched in January followed by 5 more in June



Selected Tier 1 launchers and strategic partners of Astrocast











30 June 2021 launch

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Introduction to Astrocast

Disrupting the fast-growing satellite IoT market with a leading integrated solution

At a glance

- Enabling low-cost satellite IoT communication through targeted 100 satellite infrastructure, fully designed and assembled in-house
- Secured global commercial access to L-Band, the most reliable and efficient spectrum for Satellite IoT applications
- Outperforming competition on power consumption, antenna size and cost





Key takeaways

Clear rationale for expanding our satellite constellation now



Vast number of use cases

Numerous sectors to benefit from low-cost satellite IoT connectivity



Strong ESG profile

Actively supporting sustainability and poverty relief



Wildfire detection, animal tracking, water monitoring & vehicle monitoring Wildlife tracking, supporting biodiversity

Satellite connectivity required to deploy global IoT Market to grow >50% annually



- Number of cellular IoT connected devices market will increase massively:
 - Ericsson forecasts 5.2bn in 2025
 - Transforma Insight forecasts 3.8bn in 2025
- Cellular IoT is driving growth in satellite connected devices, as satellite connectivity will play an essential role in providing and unlocking true global coverage thus expected to grow in penetration
- ReTHINK forecasts that there will be 30.6m satellite connected IoT devices in 2025 – growing 52% annually from 2019
- Estimates varies significantly between market research firms

1. Cellular includes LPWAN (NB-IoT / LTE-M) access technologies as well as 2G/3G/4G/5G

2. Calculated as satellite IoT connections divided by cellular IoT connections

Source: Ericsson Mobility Report (2020), Transforma Insight, ReTHINK 2019 and company estimates

Unmatched combination of technologies

Enabling low-cost connectivity and small-size devices

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In-house satellite design

- 100% internally designed; small-sized and lowpower L-band antenna significantly reducing satellite weight and cost
- 3-5 year lifespan¹
- 3-axis pointing system and state-of-the-art propulsion system securing position and altitude control and allows for collision avoidance maneuvers – reducing the risk of losing the satellite and creating debris in space



Proprietary ultra-low power M2M modules

- Two different products addressing different needs;
 - 1. Module: Off-the-shelf solution for easy integration of satellite communication into existing applications using reliable communication standards



2. Chipset: For customers looking to embed RF app to own products (available from 2023)



Small form-factor Antenna

- Antenna is a critical part of the form-factor of the IoT system, and while modules can be miniaturized further, antennas offers less flexibility
- L-Band antennas are the most versatile in the market and can take the form of a patch in a similar way as a GPS antenna
- Satellite IoT solutions based on other spectrum such as UHF/VHF could result in a bulkier solution

Astrocast patch antenna

Astrocast antenna vs. competitor antenna





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Strong competitive edge driven by L-Band access

Astrocast is superior on key metrics such as cost, power consumption and size

Commercial access to L-Band

- The L-Band spectrum offers superior performance over more commonly used UHF frequencies, including
 - 1. Smaller antennas (reducing weight and cost)
 - 2. Less power consumption due to more efficient radio frequency components
 - 3. More reliable two-way connection (less interference or weather-related perturbation risk)
- L-Band access is secured via an exclusive strategic partnership with Thuraya, and is a major advantage for Astrocast in the satellite IoT industry

THURAYA 🕐

Customer demand justifying full launch of constellation

Constellation to be scaled with increasing customer base



Key financials

Astrocast expects revenue of more than CHF 150m in 2025



• Astrocast expects strong revenue development driven by ramp-up of sales activities and continuous deployment of satellites

 As more satellites are deployed and latency is reduced, additional market segments becomes available and increases total addressable market By 2025 Astrocast estimates a market share of ~25% for connected satellite IoT devices

Recurring revenues to increase by installed base

Device battery life creates a loyal customer base

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Seasoned executive team with strong track-record in Space and IoT Highly experienced and competent



FABIENJORDAN

CEO/FOUNDER & BOARD MEMBER

15-year experience in nanosatellite business, key engineer of the SwissCube project, worked on ESA ExoMars mission



FEDERICO BELLONI

CTO/FOUNDER & BOARD MEMBER

10-year experience in satellite and telecom technologies having worked at Swiss Space Center on CHEOPS, CubETH, CleanSpaceOne, MicroThrust and SpaceCam projects



KJELL KARLSEN

CHIEF FINANCE OFFICER

Former President of Sea Launch AG. Led its restructuring in 2010. Participated in 39 launches with a total payload value in excess of \$7 billion



ANTONIO WALLER

VP OF GLOBAL SALES

15+ years of general sales, management and business development experience with a focus on B2B technological sectors, IoT, Fleet Telematics, M2M and Telecoms (Orbcomm in particular)



LAURENT VIEIRA DE MELLO

CHIEF OPERATING OFFICER

18-year experience in international program management and business development for satellite telecommunications and solution providers within SITA and ESA



MARCEL BARAT

VP CUSTOMER SERVICE AND NETWORK OPERATION

30 years of senior management and customer service experience for Telecom service providers and premium vendors building strong worldwide organizations













Senior and competent Board of Directors

Strong industry expertise





JOSE ACHACHE

CHAIRMAN

Former Director of Earth Observation Programs at ESA and **Deputy Director** General for Research and Technology at CNES



JAN EYVIN WANG 🛟 BOARD MEMBER (to be appointed)

Joined Wilhelmsen in 1981 and currently holds the position as **Executive Vice** President New Energy. Has held several senior positions in Norway and abroad.



JON CHOLAK **BOARD MEMBER** (to be appointed)

Seasoned venture investor and software professional with over 15 years of industry experience. Currently serving as Managing Director of Adit Ventures



FABIEN JORDAN 🔁

CEO/FOUNDER & BOARD MEMBER

15-year experience in nanosatellite business. key engineer of the SwissCube project, worked on ESA ExoMars mission



FEDERICO BELLONI

CTO/FOUNDER & **BOARD MEMBER**

10-year experience in satellite and telecom technologies having worked at Swiss Space Center on CHEOPS. CubETH, CleanSpaceOne, MicroThrust and SpaceCam projects



LOOS 🔂

BOARD

MEMBER

Extensive experience

technologies having

worked as COO and

EVP of ITC Global.

founder of NewSat

Communications as

well as Director at

Verestar

in satellite and telecom



YVES PILLONEL

> BOARD MEMBER

More than 25 years of experience as Portfolio Manager and focusing on client acquisition at leading banks and private institutions including UBS and Pictet. Currently Senior VP Private Banking at Suntrust Investment















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Taking IoT Further

Do you want to become an investor? Contact us: investors@astrocast.com