



SCEYE[®]

LEAVING NO ONE BEHIND

STTC NEW MEXICO

AUGUST 2020

WHAT IS SCEYE?



A material science company building high-performance airships for stratospheric infrastructure

VISION



Unleash the possibilities in the stratosphere
to uplift and connect all people and protect our planet



Provide connectivity as a basic human right
to the unconnected and under-connected

3.6 billion people without internet access

6.6 billion people without fixed broadband access

1.3 billion people without mobile broadband

Equitable internet access is the gateway to better
education, healthcare, finances, financial opportunities,
information & democracy



FRONT VIEW OF SCEYE ONE DURING ASSEMBLY

FLIGHTS – CONTINUOUS DEVELOPMENT



1



2016
SCEYE TECH

9 ft model – flight at 65,000 ft validating fabric, seaming method, hull pressure, thermal systems and solar panels

2



2017
SCEYE BETA

70 ft model – tethered flight validating hull assembly, gas management, power distribution and solar cape integration

3



2018
SCEYE PILGRIM

70 ft model – flight at 10,000 ft validating launch procedures, command and control of airship and ascent and descent profiling

4



2019
SCEYE PIONEER

105 ft model – flight to 19,000 ft testing flight control systems, fluid dynamics analysis, pilot experience

5



2019
SCEYE ENDEAVOR

105 ft model – Jetstream flight to 42,000 ft validating improved flight control systems, fluid dynamics analysis, pilot experience

6



2020
SCEYE ONE

Full-scale, 252 ft airship with 4G/LTE, optics, navigation and propulsion. Aim to fly 24 hours, station-keeping at 65,000 ft

RIGHT FORMAT, RIGHT MATERIALS

Geostationary

- Station
Power, control, precision
- Re-use
Land, service, fly again
- Range
Intercontinental



Capacity – largest payload

- Many x larger SWaP (size, weight and power) – to carry powerful equipment
- Massive Arrays – high capacity communications, broadcast
- Vast coverage – 70,000 km²

Endurance – longest mission time

- Up to a year vs. weeks for balloons, fixed wings
- Materials Science IP
UV and ozone resistant
1500x longer Helium retention – buoyant for years
- Closed loop energy system
Large solar capes – 10's kW supply
High capacity battery bank (400Wh/kg)

TOWER IN THE SKY

CLOSING THE GAP



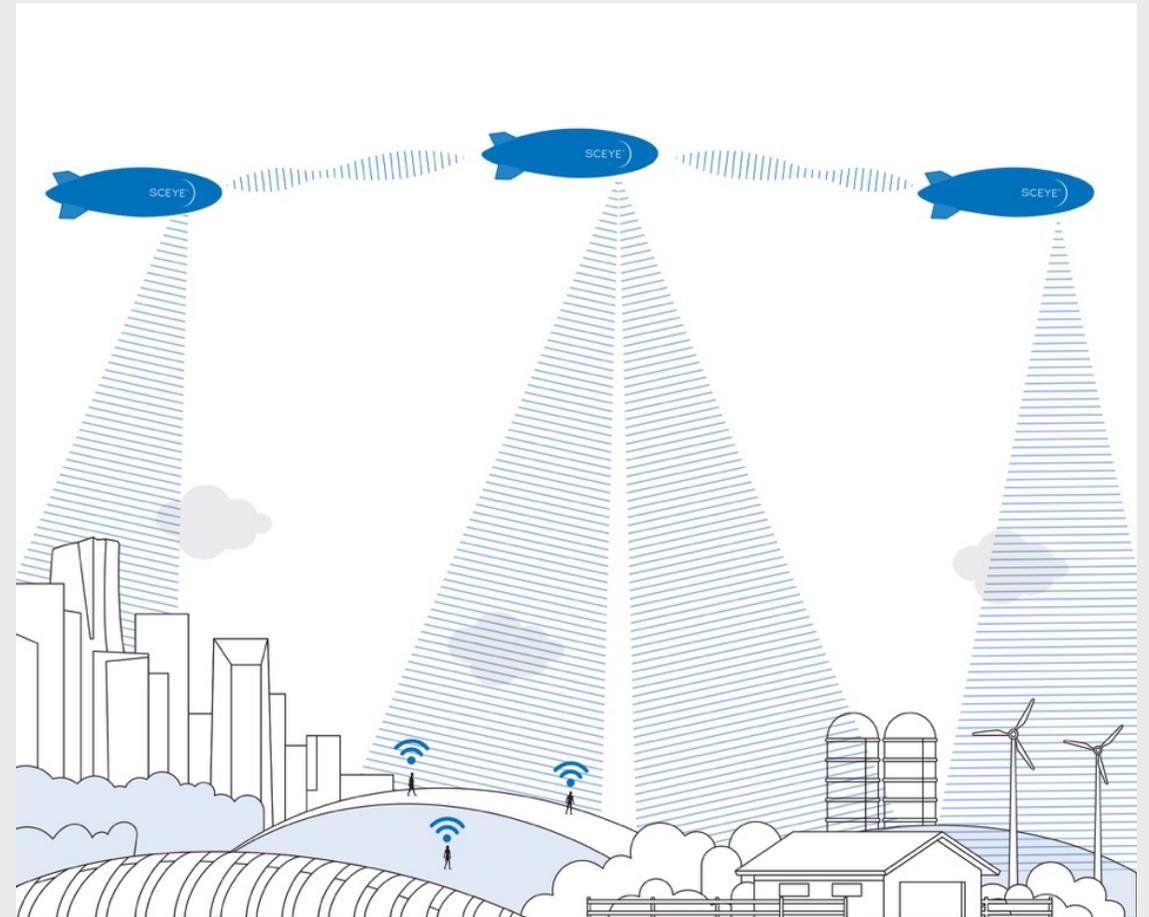
SCEYE EXTENDS TELCO'S COVERAGE AND PROFITABILITY

What towers can't do

- Scale – 1 airship can replace 100's of towers
- Time – an airship is instant infrastructure, tower equivalent would take 5 years

What satellites can't do

- Direct to handheld – satellites need specialized ground receivers – expensive!
- Operate within country's national firewall – satellites are in orbit moving data globally
- Target investment to when and where customers are
- Satellites require \$10bn in upfront investments in the hope that customers will come



SCEYE STATIONS



CRUSH LAST MILE LIMIT

Sceye Stations break this dead-lock

→ 100% geographic coverage is economically feasible

Terrestrial network economics get worse with area covered

→ Sceye networks get better with coverage

Finally, public-equity in broadband access

→ Your ZIP code no longer determines access and your economic inclusion

By lifting infrastructure up into the sky, huge efficiencies are gained

- One tower now covers up to 1000x the area it can on the ground
→ 70,000km² from Sceye vs. 70km² per tower on the ground
- One tower serves 100x more bandwidth to connect 100x more people
→ 30Gbps from the sky vs. 0.35Gbps from a tower
- Least hardware \$ required /km²
→ Most efficient coverage – lowest cost/km²

And by focussing signal where it is needed, resources are optimally shared

- Move airship location at will – flexible coverage, on-demand
- Beam signal to where it's needed on the ground – consistent access
- 3D beam shaping and steering maximises spectrum re-use
→ Highest capacity /km² – lowest cost of broadband delivery

NM | WE'VE GOT YOU COVERED

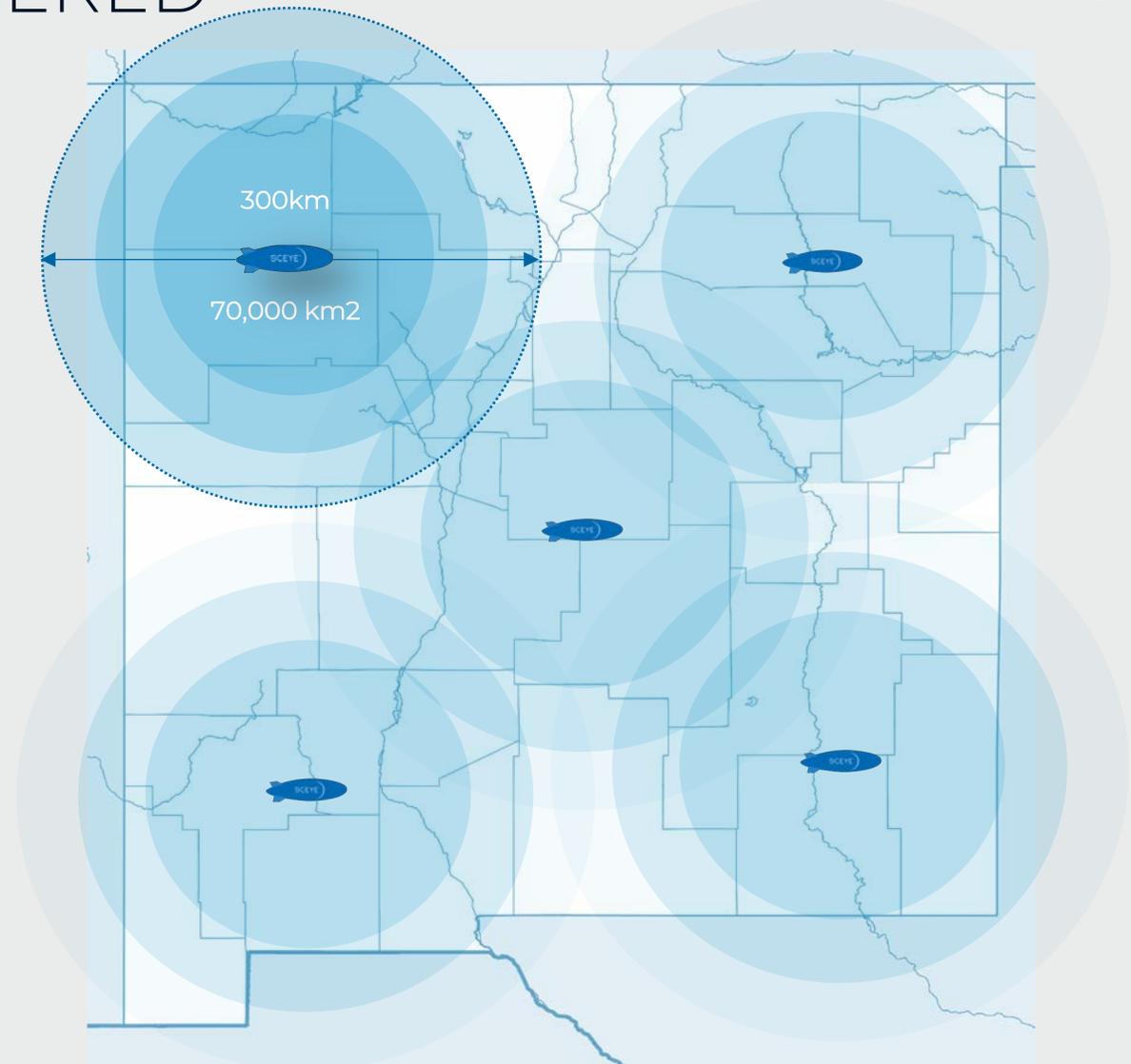


5 airships cover the whole state – 100% inclusion

- Only solution to deliver true public-equity

Fast, flexible, resilient

- Simple – roll-out coverage in months
 - Start with most needed areas
 - Flexible – move to where coverage is needed
 - Land, fly and upgrade – always up to date
 - Resilient – unaffected by ground events
 - Fires, outages, storms, pandemics...
- Avoids perennial \$Bn Capex hole state faces and which will never achieve 100% coverage
- ✓ Simple 'Coverage-as-a-service' fee can be borne by carriers



PARTNERS | SOLVE BROADBAND



- State-wide coverage is achieved with local ground partners – TelCo.s
 - 2020 : partnerships formed
 - 2021 : funded deployment plans
 - 2022 : launch services
- Sceye is actively working with local partners to extend their coverage and grow their business
- We have specific focus with Navajo Nation and partnering with Sacred Wind
- Together, we make the most compelling solution to attract federal funding and deliver on 100% inclusion
 - FCC RDOF
 - CARES
 - USDA
 - US EDD
 - NSF

RESOURCES NEEDED



- Sceye has invested in NM with plans for further investment
 - 2 facilities – Moriarty & Roswell
 - Specialist teams – working with NM labs, academia, consultants, IT specialists
- Sceye is working with
 - **Sec. Keyes of EDD** to obtain financing to support build of its Commercial Production facilities
 - LEDA, J-TIP
 - **EDA** to obtain financing to support build of its Commercial Hangar
 - Expected to create over **140 new jobs and graduate training programs**
 - Benefit local economy – grow specialist suppliers, partnerships with Academia and TelCo.s
 - NMSU, NMTech, Sandia Labs, AFRL
 - **Sec. Sandoval of NMDOT** to acquire data to enable local partners to bid for Federal funds
 - **Sec. Kenney of NMED** is working with EPA and SCEYE to explore innovative, next generation ozone/methane monitoring and furthering national atmospheric chemistry models in support of local, regional and national air quality goals

→ Need support with Hangar - \$35m

→ Seeking state sponsored equity investment (SIC) - \$45m



Sandia
National
Laboratories

