



Achieving Growth

Satellite Finance Network Annual Conference

21 April 2015

Bird & Bird

UKSPACE
THE U.K. FULL TRADE ASSOCIATION

 BARCLAYS

 AIRBUS
DEFENCE & SPACE

CATAPULT
Satellite Applications


inmarsat
The mobile satellite company™


UK SPACE
AGENCY


SFN
Satellite Finance Network

Welcome





Welcome:

Alison Horrocks
Executive Vice President
Inmarsat





Welcome:

Richard Peckham

Business Development Director (Space)

Airbus Defence and Space

Co-Chair SFN





SFN Success Stories

Joanne Wheeler

Partner

Bird & Bird

Co-Chair SFN



Bird & Bird

Satellite Finance Network

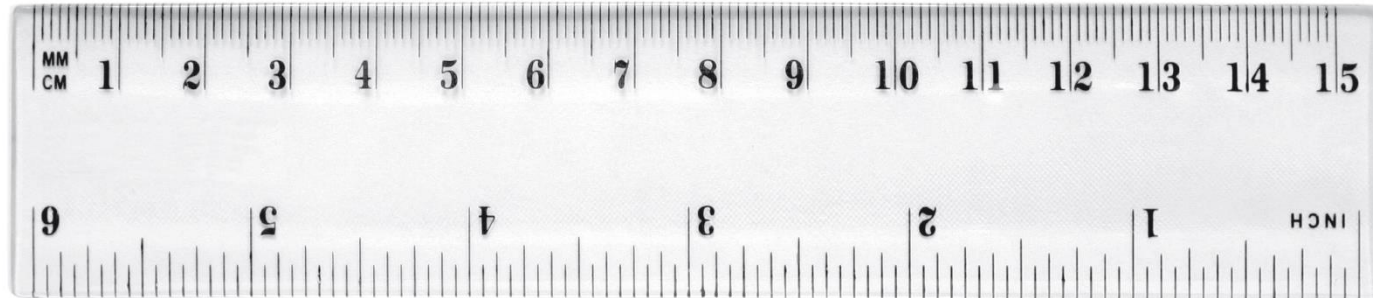
With you every inch of the way

Finance and regulatory network for the UK space industry

Aim – to support the growth of the UK space industry at all levels

Launched – 16 July 2013 at UK Space conference in Glasgow

Emerged from – Space Innovation and Growth Strategy (IGS), published in 2010, and the "Restack" of the IGS in 2014.



Aim – to support the growth of the UK space industry

1. Facilitating and attracting investment
 - Connecting industry players (particularly SMEs) with the financial community
2. Identifying regulatory barriers and other impediments to growth
 - Working to create a "space friendly" and competitive regulatory environment for the UK
 - Offering solutions, where they exist, to industry players
 - Encouraging and supporting exporters in areas of finance and regulation
3. Promoting business opportunities between companies

Facilitating and attracting investment



Connecting industry players (particularly SMEs) with the financial community

(including UK Export Finance and advisers or providing an opportunity to present an elevator pitch to investor community)

Some examples

Bright Ascension	iSat Networks	e2E
Bristol Spaceplanes	Charles & Paul	Travel A1
UrtheCast	D-Orbit	Tisics
Alba Orbital	Space Synapse Systems	Kypros Satellites
Aerospace Resources Ltd	Evening Star	Artemis Space

Identifying regulatory barriers and other impediments to growth

- Working to create a "space friendly" and competitive regulatory environment for the UK
 - Delivering key recommendations of IGS – pushing for reform of the Outer Space Act to cap unlimited indemnity; and put UK companies on a level playing field
 - Removal of 6% insurance premium tax on satellite risks which placed UK companies at a competitive disadvantage
- Offering solutions, where they exist, to industry players e.g. – providing advice to satisfy "financial standing" criteria to obtain an Outer Space Act licence.

Identifying regulatory barriers and other impediments to growth (cont...)

- Encouraging and supporting exports in areas of finance and regulation
 - Collaboration with, and introductions to, UK Export Finance
 - Assisted a company in the final closing days of a finance facility to enable a valuable export contract to be implemented

Illustrated genuine value of collaboration between SFN, UK Export Finance, a bank and the company.

Promoting business opportunities between companies, and supporting "every step of the way"

Other assistance provided by SFN:

- Introductions to:
 - UKTI Innovation Gateway Team
 - Local Enterprise Partnerships
 - Assistance to lease facilities/offices in various areas (Surrey, Harwell)
 - Networking at conferences/finance briefings
 - Opportunity to provide Elevator Pitches
- ... more opportunities to come

BUT SFN WOULD NOT EXIST WITHOUT SUPPORT OF:



- SATELLITE ADVISORY BOARD
 - Richard Peckham, Airbus
 - Paul Flanagan, UKspace
 - Antonia Jenkinson, Satellite Applications Catapult
 - Nick Flitterman, Portland Advisers
 - Liam Martin, Access Partnership
 - Bob Waters, UK Space Agency
 - Peter Maplestone, UK Export Finance
 - Neil Stevens, Space Fin Limited
 - Professor Richard Brook, E-Synergy
 - John Aldred and Stephen Ainsworth, Barclays

BUT SFN WOULD NOT EXIST WITHOUT SUPPORT OF:



- Inmarsat
- Satellite Applications Catapult
- UKspace – Jane Ford
- UK Space Agency
- UK Export Finance
- UKTI
- Bird & Bird
- The SFN Members

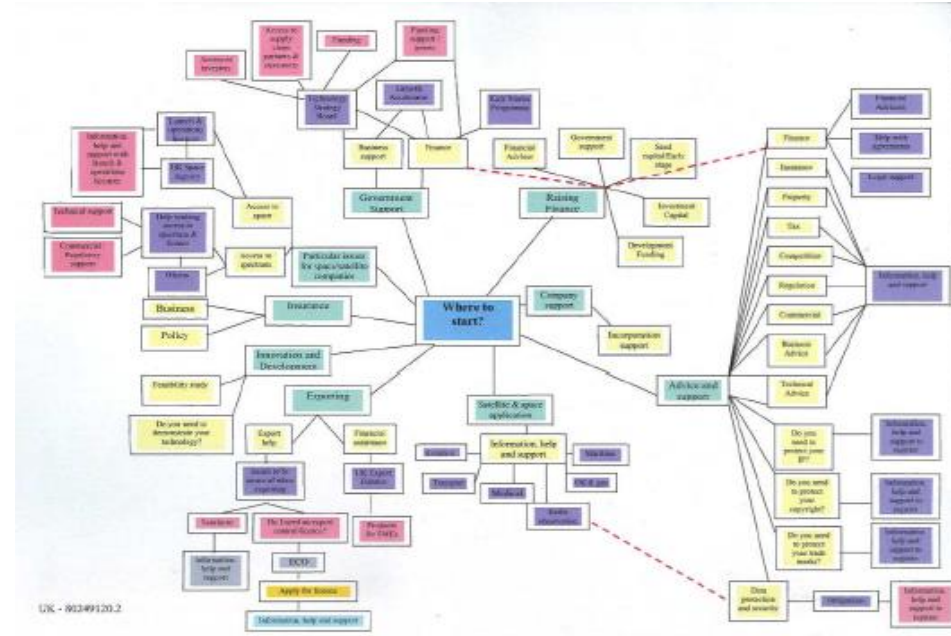
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- Satellite Applications Catapult
- UK Space Agency
- Inmarsat
- Printech
- UKspace
- Oxford Space Systems
- SharpCloud Software

So – what's next?

- Twice yearly newsletter
- "Where to start" mind map web page
- Finance briefing and elevator pitches 3 July 2015
- "Space Industry Directory"



So – what's next?

- Collaboration with European Centre of Space Law (ESA) to provide regulatory and legal seminars
- "BackonBoard" project
- Other collaborations...
- Continuing to identify and bring down barriers to achieving growth



Achieving Growth

Senior Executive Viewpoint:

Chair - Mark Holmes, Editor, Via Satellite

Rupert Pearce, CEO, Inmarsat

Stewart Sanders, CTO, O3b Networks

Tim Sherwood, Chair, Satellite Applications Catapult

Matt Child, SVP Government Sector, Eutelsat

Andrew Wallace – Director, Hermes Integration & CEO, Pyreos





SFN
Satellite Finance Network

Coffee

sponsored by





Overcoming Hurdles – Achieving Growth

Chair – Stuart Martin, CEO, Satellite Applications Catapult

Richard Brook, Co-Founder, E-Synergy

Theresa Condor, VP Corporate Development, Spire

Jonathan Waugh, Head of Public Safety, Airbus Defence and Space

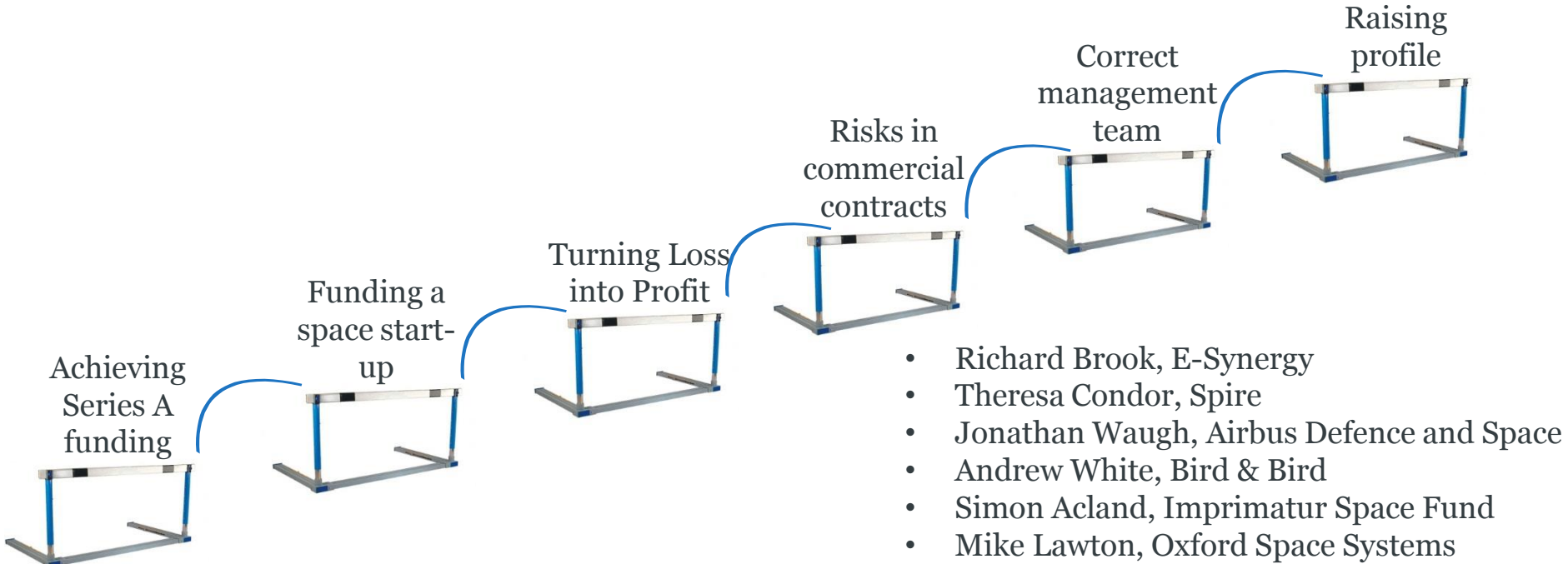
Andrew White, Partner, Bird & Bird

Simon Acland, CIO, Imprimatur Capital

Mike Lawton, CEO, Oxford Space Systems



Overcoming Hurdles to Achieve Growth





Achieving Series A Funding

Richard Brook
Co-founder
E-Synergy



Series A

A company's first significant round of venture capital investment...

... up to the bigger players



"I thought you said he was a 'venture' capitalist!"
Goddard Cartoon ©PharmaVentures; all rights reserved

From seed stage,
friends and family,
and small investors ...



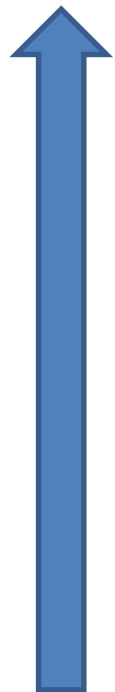
Series A

“May be provided in the form of preferred stock and offer anti-dilution provisions to new investors.”



Beware liquidation preferences etc...

Rungs on the ladder



- Readiness
 - Availability of debt and grants?
 - Crowdfunding?
 - Platform?
 - VC?
 - Understanding sources of finance?
- Team
- Traction
- Milestones



Case Study

University Biotech Spin-Out



2004 Platform technology extracted from university
Killer application after **4 Seed Rounds**

2008 *Recruited new industry chair*

Series A consortium round: VCs+VHNWs

Convertible loans + liquidation preferences

Changed CEO

Several £m invested in **7 more stages**

Essential to follow VCs to avoid dilution

2014 **Buy & build merger: loans converted**
Listed on AIM



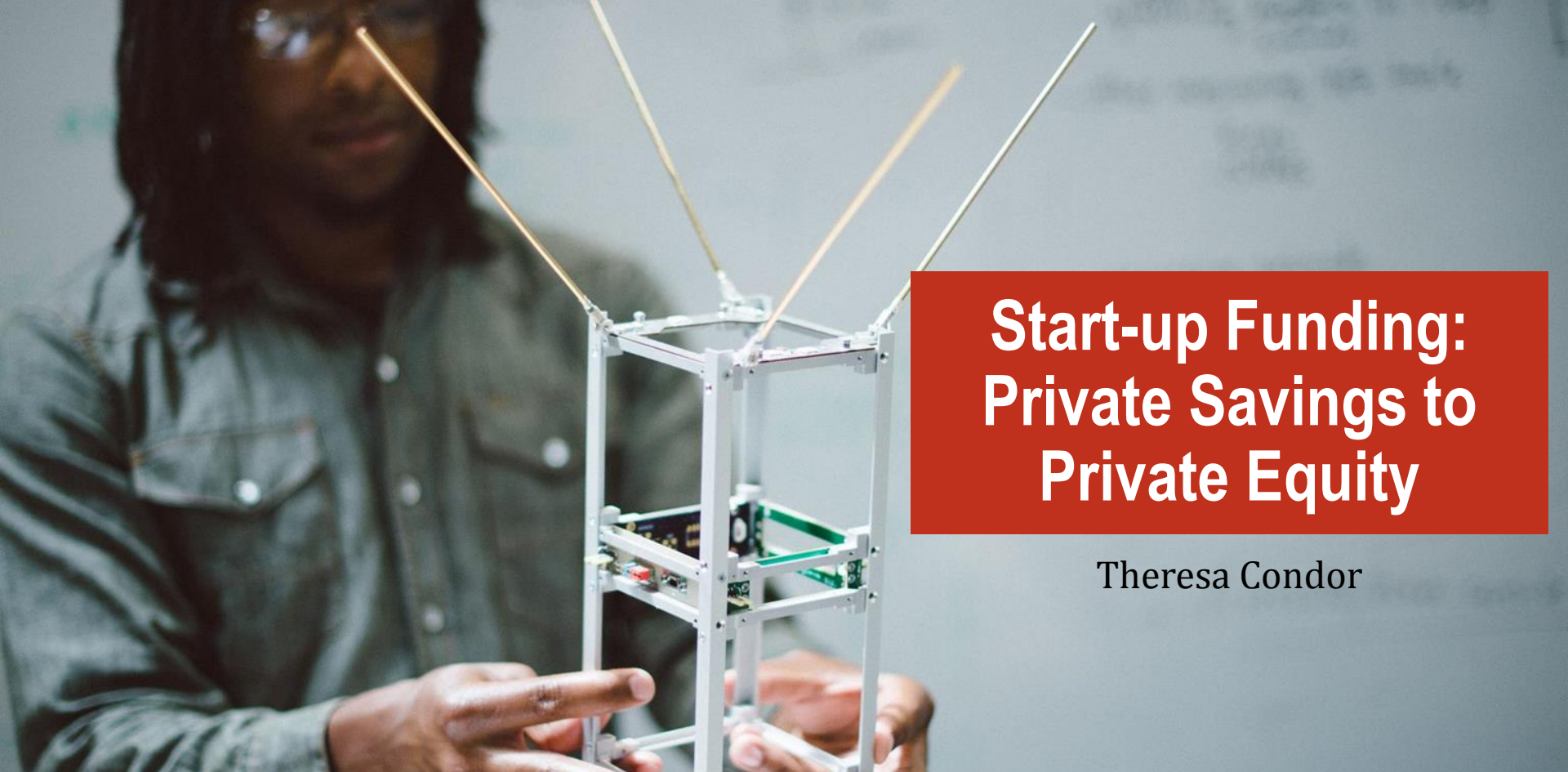


Funding a space start-up: from private savings to private equity

Theresa Condor
VP Corporate Development
Spire

Series A
Funding
Achieved

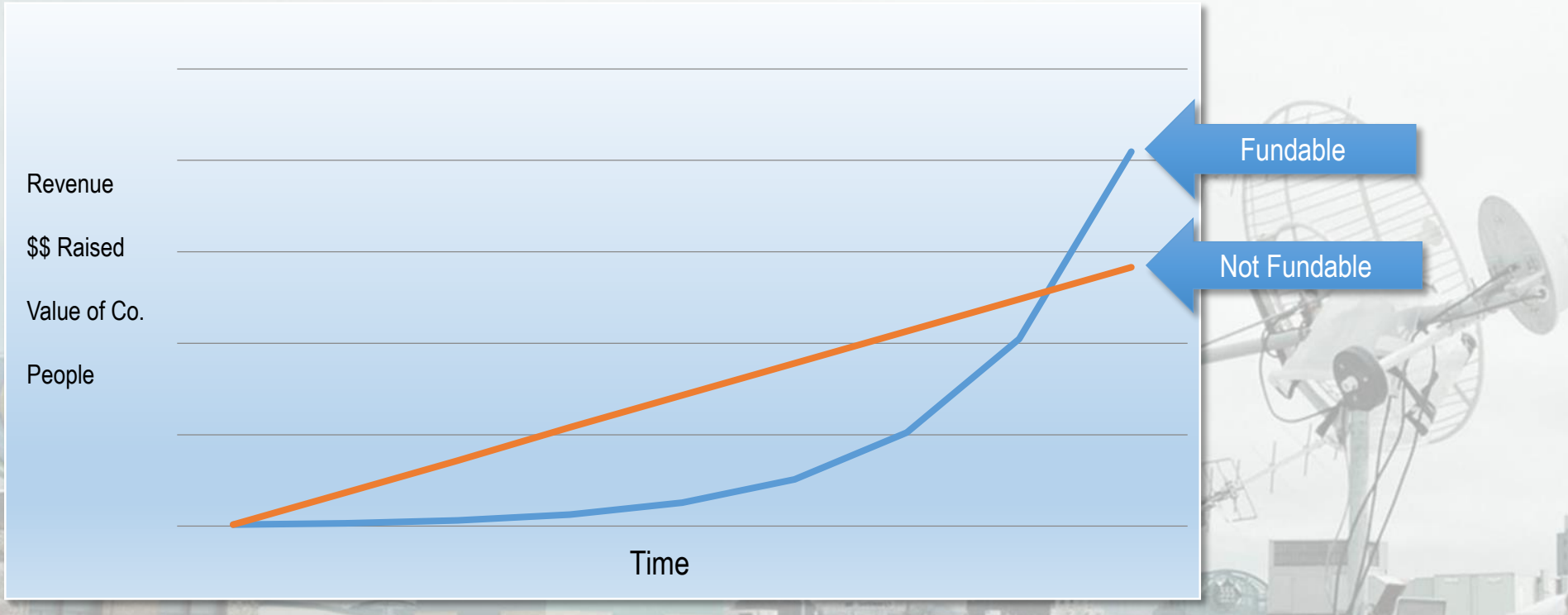




Start-up Funding: Private Savings to Private Equity

Theresa Condor

Start-up Funding Needs an Exponential Curve

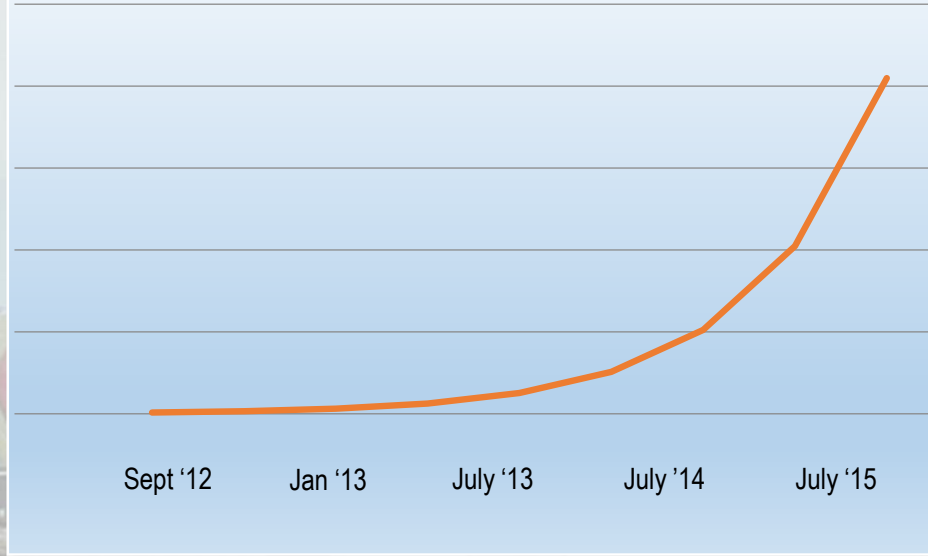


Typical Funding Progression

	Private Savings	Angel	A	Venture Debt	B	Venture Debt	PE	(Venture) Debt	IPO
When	Month 0	Month 6 - 12	Month 12 -24	A	A + 1-2 years	B	B + 2-3 years	PE	PE + 3 years
Amount	< 100k	1 -2mm	5-8mm	20% of A	2 0 -30mm	30% of B	100mm – 1B	50 – 100% of PE	1 – 100B
Revenue	0	<100k	<1mm		~10mm		100mm		1B
Timeline	0	1 -3 months	1 – 6 months	A + 3 months	3-4 months	B + 0-6 months	6 months	Simultaneous	12 months
Employees	3	<10	<25		<100		>100		>250
Dilution	0	20 – 30%	20 – 30%		10 – 20%		10 – 15%		~10%

Spire Case Study

Spire Progress

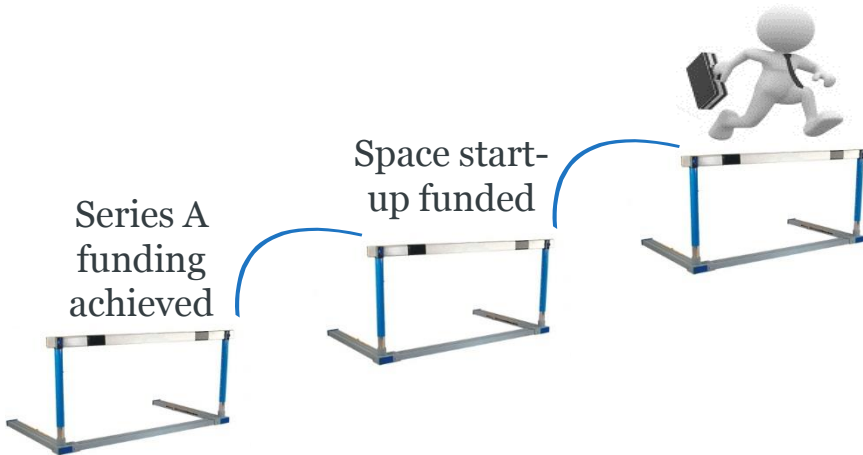


	Sept 12	Jun 13	Jul 13	June 14	July 15
People	3	7	12	17	~50
Value	\$	5x	2y	10z	
Amount	< - 50k	> - 1.3mm		> - 25mm	
Time	0	3 months	1 week	4 months	
Revenue	0	< - 150k		<1mm	>-10mm



Turning loss into profit

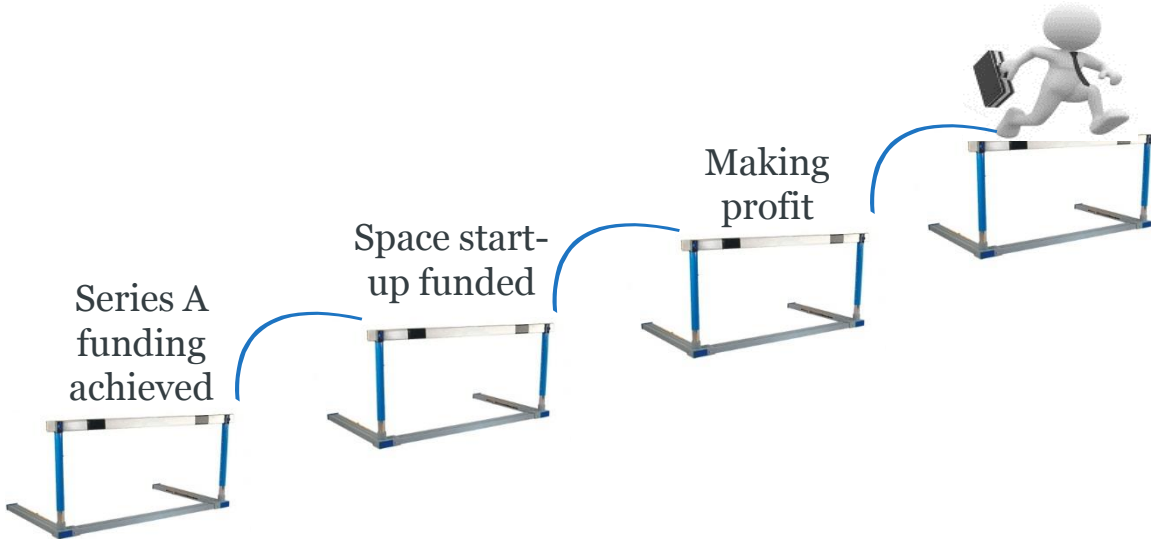
Jonathan Waugh
Head of Public Safety
Airbus Defence and Space





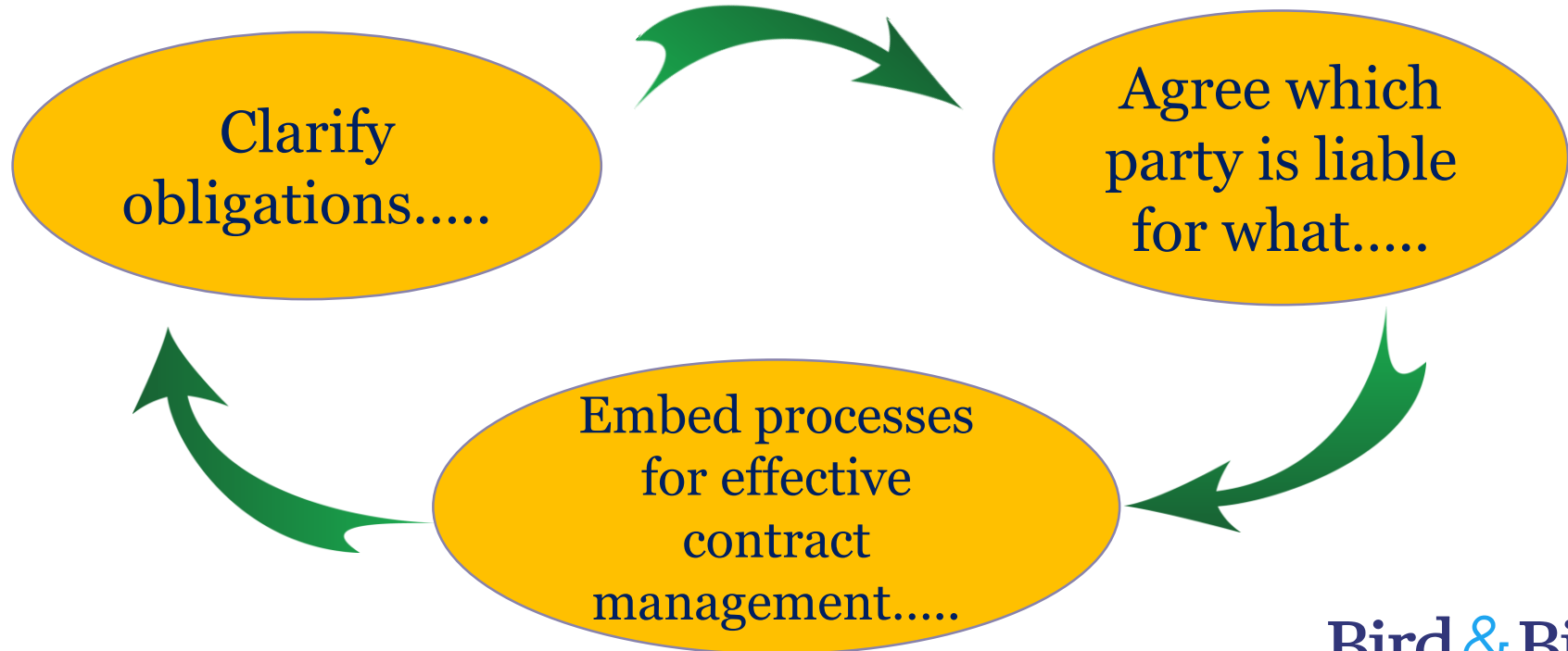
Managing risk in commercial contracts to ensure growth

Andrew White
Partner
Bird & Bird



Managing risks in commercial contracts

Andrew White, Partner, Bird & Bird LLP, at the Satellite Finance Network (SFN) Annual Conference, 21 April 2015



Managing risk by clarifying obligations.....

Key message: Increase certainty and manage risk by clarifying obligations under a contract. Vague, conflicting or unrealistic obligations are a frequent source of dispute and business risk.....

- 👉 What does the promise to deliver involve? Timescales? Level of investment required? A robust supply chain? etc
- 👉 What is being provided, and to what standard?
- 👉 What conditions are attached (eg third party consents?) Which third parties do you depend upon?
- 👉 Payment: what, when, to whom and how?
- 👉 Who are the deliverables for? Delivered where? For what purpose?
- 👉 Does the customer need a delivery guarantee from provider? Does the provider need a payment guarantee from customer?

Managing risk by agreeing who's liable.....

Key message: English law permits businesses entering into contracts to limit or exclude many types of liability for breach, or for the impact of financial difficulty. These arrangements need to be documented.....

- 👉 English law upholds 'freedom of contract'. Side-by-side with that concept is the concept of 'freedom to limit' liability
- 👉 Financial liability for breach of contract, delay, negligence or certain types of misrepresentation can be limited, or even excluded
- 👉 Other solutions for contract breach, or other triggers, include liquidated damages, indemnities, guarantees or termination rights
- 👉 These contractual arrangements can go further than under the laws of most other countries (including continental European laws)
- 👉 There's only limited statutory protection against 'unreasonable' terms in English law B2B contracts. The bargaining power and resources of the parties are relevant in assessing what's reasonable.....

Managing risk by embedding processes.....

Key message: Many contracts, especially long-term or strategic contracts, are built around a relationship requiring cooperation and communication. Embed 'rules of the road' to guide that relationship. This can help to manage risk and to maximise business benefits. For example:

- ☞ Agreeing a system of law to govern disputes
- ☞ Governance: project meetings, information sharing, audit rights
- ☞ Driving performance improvement and value/innovation
- ☞ Maximising the value of intellectual property generated by the parties
- ☞ Mechanisms for agreeing matters which are deliberately left open
- ☞ How to deal with third parties (eg regulators, or violators of rights)
- ☞ Early warning systems for problems
- ☞ Flexible dispute management, eg mediation or expert determination
- ☞ Fixing time limits for making claims, and for other notifications

B2B contracting in the real-world.....

Your behaviour can affect your contractual rights.....

- 1**you can find yourself in a binding contract without meaning to, or without even writing anything down
- 2**you can surrender valid rights without intending to: lesson – manage the contract carefully after signature
- 3**a trusting and cooperative business relationship can sometimes compensate for even a one-sided written contract

Your legal advisers need to help you and empower you by.....

- 4**showing commercial awareness of your sector, and its drivers
- 5**recognising your day-to-day challenges and resource constraints
- 6**providing tools, methodologies and training to drive your excellence in contract negotiation and post-signature management



Ensuring the correct management team to achieve growth

Simon Acland
CIO

Imprimatur Capital

Contractual
risks
managed



Making
profit

Space start-
up funded

Series A
funding
achieved



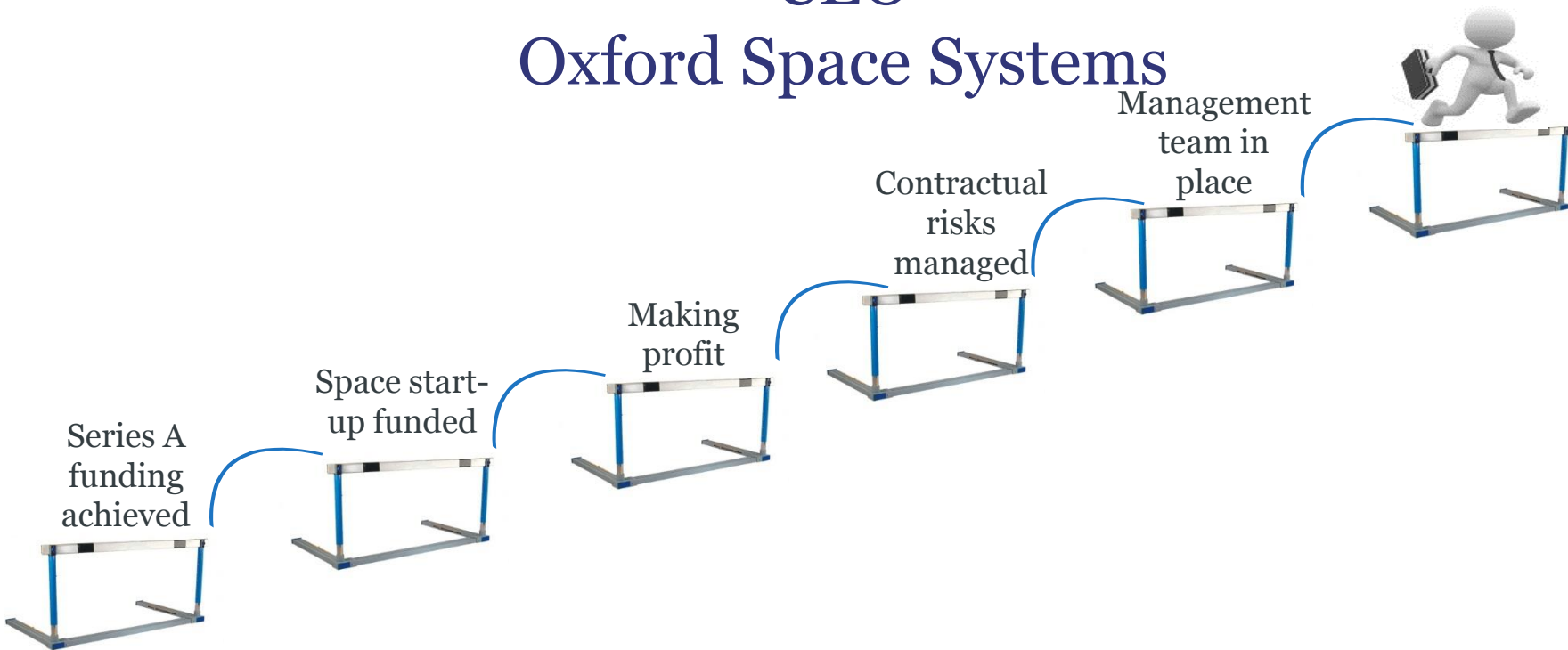


How to raise your profile with no budget

Mike Lawton

CEO

Oxford Space Systems





Oxford Space Systems is an award-winning space technology business that is pioneering the development of next-generation deployable structures that are lighter, less complex and lower-cost than those in current commercial demand.

There are currently **2,300+**
registered satellites orbiting Earth.

Over the next 10 years this number
is forecast to **double**.

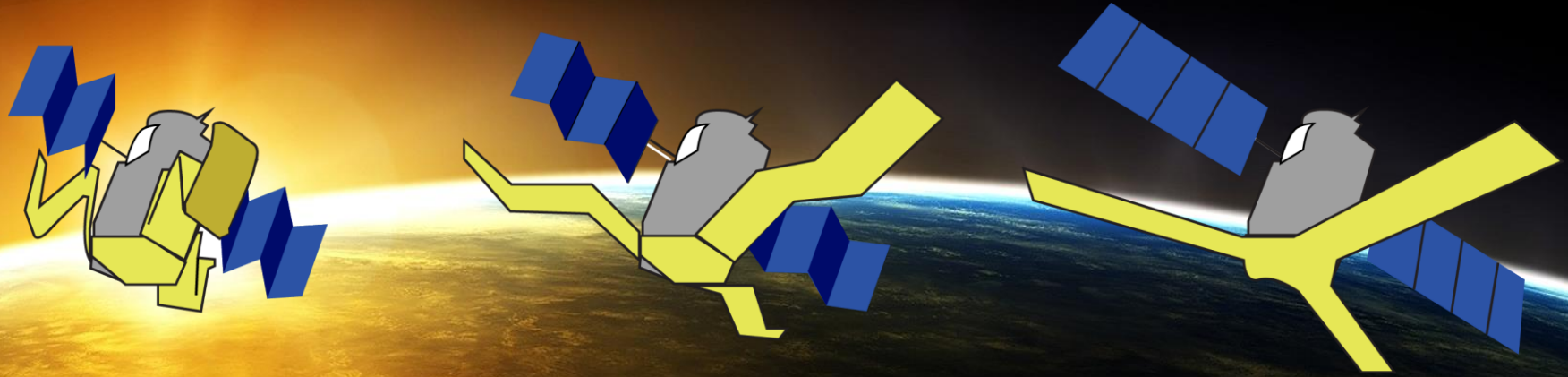


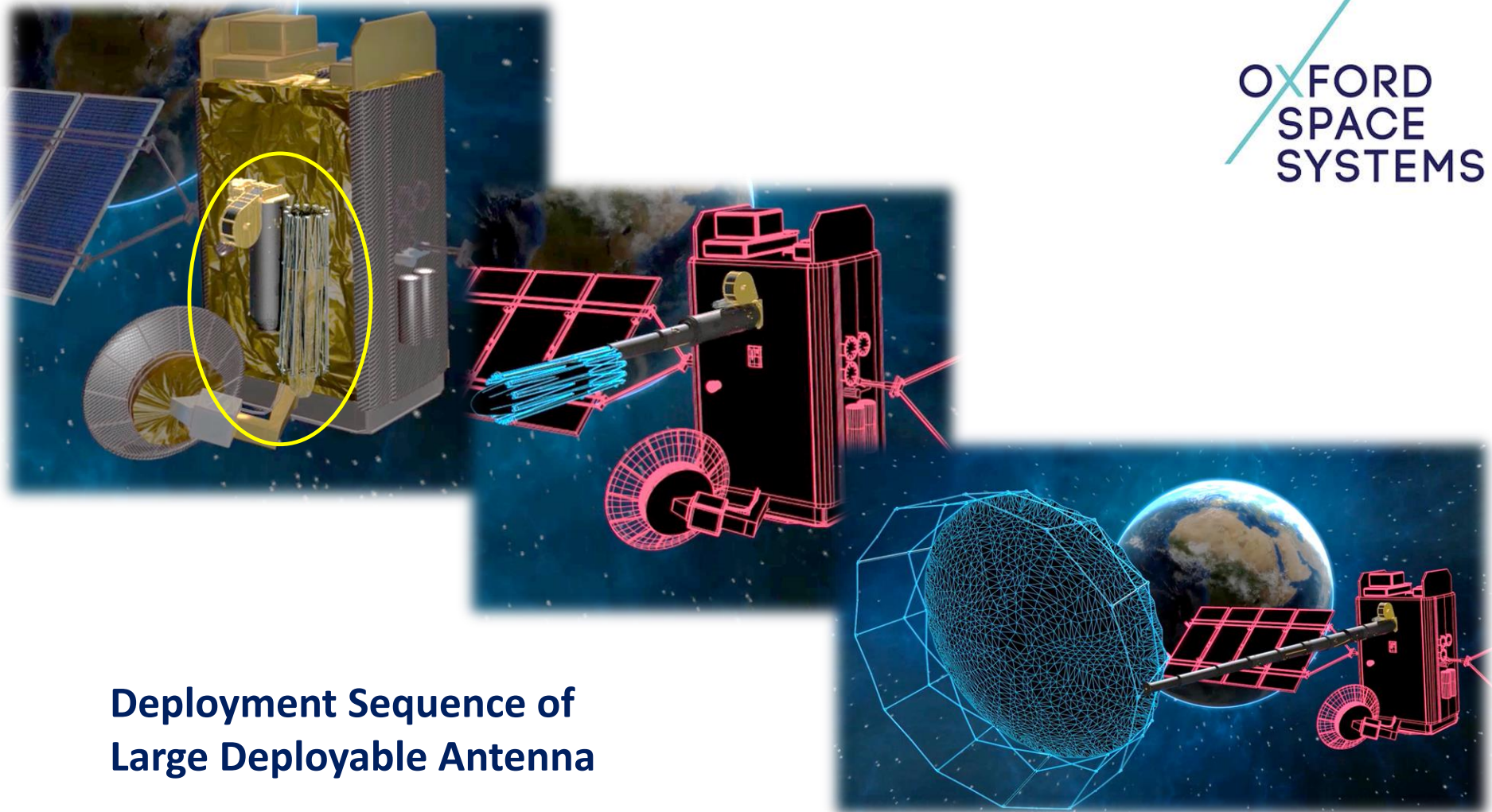
Launch is expensive:
£20,000+ / kg

Two biggest factors:
size & weight



To maximize cost efficiency, **critical components** are designed to **deploy** in orbit.





**Deployment Sequence of
Large Deployable Antenna**

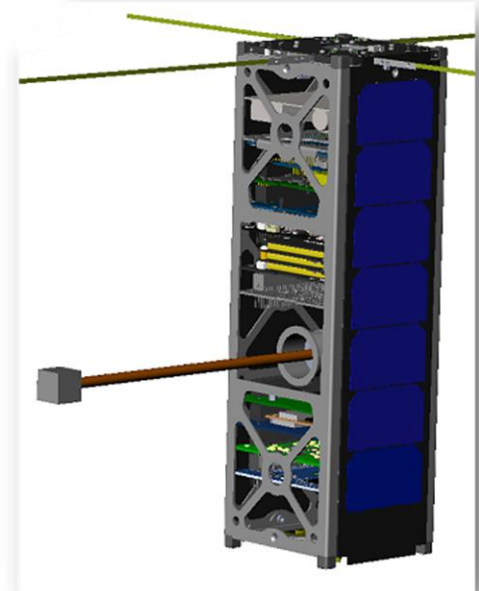
De-Risking Strategy: CubeSats



**OSS Prototype Boom /
Actuator**



Standard 3U cubesat chassis



**Deployment of
Magnetometer**

Press Coverage for 2016 CubeSat Boom Mission

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News story

UK Space Agency's second CubeSat mission is taking shape

From: UK Space Agency
First published: 5 March 2015
Part of: Science and innovation and UK economy

The UK Space Agency's next CubeSat mission, AlSat Nano, is starting to take shape, following the selection of the mission's payloads.



The suite of 3 payloads will be developed by UK academic-industrial partnerships that will use the mission for rapid and cost-effective demonstration of new and innovative space technologies.

AlSat Nano is a joint space mission between the UK Space Agency and Algerian Space Agency (ASAL). In March 2014 the UK Space Agency and ASAL signed a Memorandum of Understanding (MoU) under which the two parties agreed to enhance collaboration in space programmes. A specific action identified following the MoU was the establishment of a joint educational CubeSat development programme to be delivered by Surrey Space Centre (SSC), utilising its ties and heritage in the field.

CAD drawing of Alsat Nano. Credit: Surrey Space Centre.

SPACE DAILY

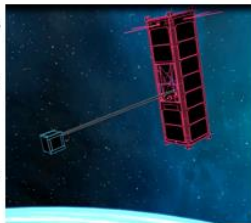
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TECH SPACE

UK Space Agency's second CubeSat mission is taking shape

by Staff Writers
London, UK (SPX) Mar 04, 2015



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A specific action identified following the MoU was the establishment of a joint educational CubeSat development programme to be delivered by Surrey Space Centre (SSC), utilising its ties and heritage in the field.

The mission's payloads include:

- SpaceMag-PV Boom**
This payload could significantly improve the range of science experiments that a CubeSat could carry by making advances in the field of booms - arms used to hold instrument sensors as far as possible from the spacecraft body to minimise interference.
- SpaceMag-PV Boom**
SpaceMag-PV Boom will flight test the world's longest retractable CubeSat-compatible boom which will be able to deploy up to 2 metres in length from a volume the size of a cigarette packet. This technology could also form the basis of de-orbit systems for future missions.

The payload also carries a magnetometer, one of the most compact of its class, to carry out measurements of the Earth's magnetic field. Also on the payload will be RadFET radiation monitors, and test tokens of a revolutionary flexible solar cell material. The payload is led by [Oxford Space Systems Ltd.](#), collaborating with partners including RAL Space and Bartington Instruments Ltd.

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UNITED KINGDOM

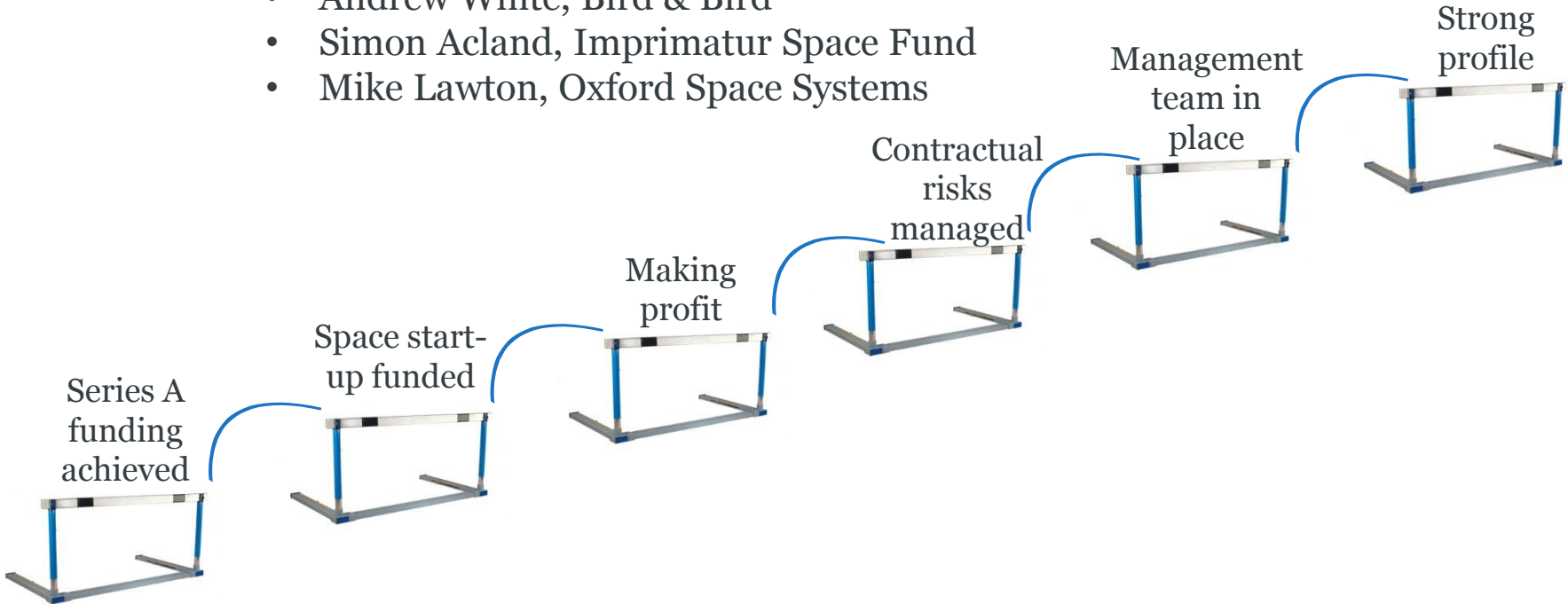
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Satellite Finance Network

Overcoming Hurdles to Achieve Growth

- Richard Brook, E-Synergy
- Theresa Condor, Spire
- Jonathan Waugh, Airbus Defence and Space
- Andrew White, Bird & Bird
- Simon Acland, Imprimatur Space Fund
- Mike Lawton, Oxford Space Systems





Networking Lunch

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IP Surgery

Adam Brocklehurst, Patent Attorney, K2 IP
parallel session taking place in
Dopplar – 1st Floor



Financing Growth

Chair: Nick Flitterman, Head of Telecoms, Portland Advisors

Richard Brook, Co-Founder, E-Synergy

Mark Boggett, Managing Director, Seraphim Capital

Marcus Plumley, Director, HSBC

Stephen Ainsworth, Relationship Director, Barclays

Elia Montanari, Head of Financial Control and Management Office, ESA

Michael Lawrence, Business Development Director, Deimos Space UK Ltd





Growth Through Exports

Chair: Steve Young, Head of Sales & Marketing, SSTL

Chris Lee, Head of International Space Policy, UKSA

Terry Coxall, Space Specialist, UKTI

David Harper, CEO, iSat Networks

Ali Sherwani, Deputy Head of International Business Development,
UK Export Finance

Farmida Bi, Partner and Head of Islamic Finance, Norton Rose Fulbright

Maurizio Vanotti, Head of Telecom Satellites, SSTL





SME Export

iSat Ltd

The UK's Leading Manufacturer of
Specialist Satellite Terminals and
Systems.



iSat Company Strengths

iSat background

- An established leading UK Space Sector Company
- International government and defence accreditation including NATO, UK List X and ISO9000 with extensive broadcast plus enterprise experience.
- Experienced team of sector specialists; 4 years track record as iSat; 20 years heritage as L-teq and OmniGlobe.



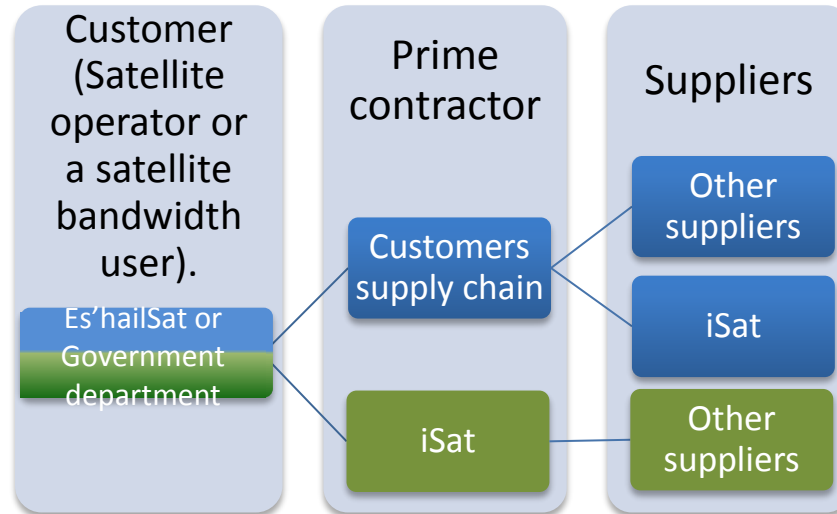
Target activities



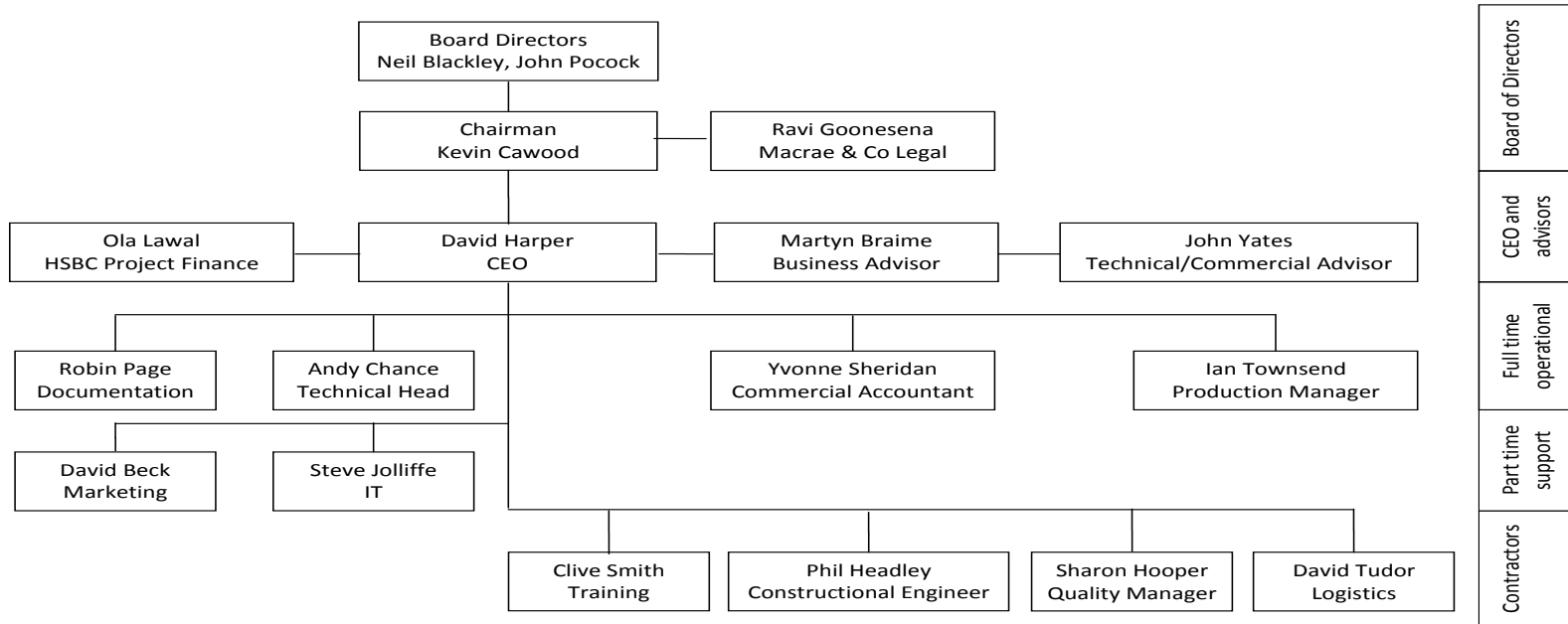
- Approve VSAT terminals for Satellite Operators to sell services at new frequencies.
- Targets hit at
 - Qatar Satellite Company (18GHz transmit; 22GHz receive + 27GHz/17GHz Ka)
 - Airbus Defence and Space (X-band)
 - ARABSAT (Appendix Ku)
- First to market gains a commercial and technical IP.

Sales Strategy, 2 routes to market

- To sell end to end solutions direct or
- To supply the terminal into the customers preferred prime contractor (s).
- Opportunities arise to sell satellite bandwidth to create monthly revenues



Company Management Structure



Current figures

- £653,036 Year to date sales (end 03/15)
- £249,034 Orders in hand to ship
- £1,472,345 Tenders submitted including:-
 - £345,314 18/22GHz fixed antennas
 - £758,156 C-band circular extended.
 - £165,577 18/22 Vehicle mounted
 - £ 98,951 X-band frequencies
 - £ 9,029 Others
- £1,903,329 Additional pipeline opportunities

iSat Company Funding

Funding

- 2011 Initial seed funding £405K Equity
 - Seed funding from Synergy Business.
 - High Net Worth individuals known to the founder.
 - Employees, family and friends.
- 2014 Working capital funding £100K HSBC
- 2015 Working capital funding £125K HSBC

- 3rd stage will be expanding the activities into 3 or 4 times the number of customers



iSats exports offer dramatic growth to £10M by 2020 by exploiting track record and reputation

- Extend sales to....
 - Other satellite operators needing similar terminals
 - Vehicle mounted / Maritime
 - Add services and options.
 - With a stronger balance sheet and technical team
 - Higher value projects for hubs
 - Recurring bandwidth revenues.

Stage 3 Funding Requirements

- More sales to address similar satellite operators with low product development.
- Stronger balance sheet to give confidence to new customers.
- More technical resource
- Incremental developments
- Aim is to create stable monthly revenues and a profitable exit for shareholders.

Typical Finance required by SME to go from 2/3 customer to 10/20

Strengthen critical sales and engineering resources to support the growth objectives.	£300K
Company awareness and lead generation.	£50K
Additional Specialist Terminals development.	£350K
Engineering and manufacturing tools and resources.	£200K
Cash requirements to gear the company correctly.	500K*
Potential market consolidation and M&A.	Up to £2M

* HSBC currently provide £125 and are interested in making money- obviously.

Conclusions

- Established sales strategy that is working.
- Funding can accelerate dramatic growth in a global market.
- Related target markets have been identified with small quantifiable technical development required.
- Potential business opportunities exist for iSat to reach £10M sales by 2021 and provide an attractive proposition for acquisition.
- Existing owners with a desire to move forward.



Closing Remarks

Rupert Pearce

CEO

Inmarsat





Networking Reception

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