Optic Networks (France)

Sonic Fast Broadband

Problem Overview

- The critical need for reliable ultra-fast broadband services – meeting the current and future-anticipated needs of users, and available rapidly and at affordable costs.
- The provision of a high performance, low latency, secure, and reliable broadband service – to address user needs and concerns across all their application use cases (e.g. streaming an HD film, transmitting e-Health data, backing up data to cloud services, etc.)
- For France to lead the rest of Europe and the globe, and seize the major economic, social, and cultural benefits that an advanced nationwide 2Gbps to10Gbps digital internet infrastructure affords – for residents and businesses.

Unfair advantage

Do you have a scientific breakthrough, intellectual property, business-model innovation or a unique partnership?

- We have a business-model innovation, in that we uniquely offer a pure end-to-end fibre optic broadband network service, affording much higher performance over long distances and lower latency, based on our innovative technology architecture and design. And one that can readily scale to a future-proofed 10Gbps download and 2.5Gbps upload, performance without requiring any upgrade to the network infrastructure. In addition to a market disruptive service offering – starting at double (2 Gbps – scalable to 4, 6, 8, and 10Gbps without network upgrades) the performance and at a very competitive cost compared to the nearest competitors' inferior network service - through leveraging the most advanced XG-PON1 technology and network architecture design efficiencies.

Business Model & Characteristics

Customer Profile

Residential & Business Customers

Affluent Tenants & Owners	Developers	Property Managers	Freeholders
Students, Professionals, & Technophiles			

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Product Profile

Unique Pure Fibre Optic Broadband Service

Subscription-based Revenue Model

Residential Customers: 2Gbps Service: €69 Per Month	Business Customers: 2Gbps Service: €345 Per Month

Contended Upload & Download Service Performance

Uniquely Scalable To 4, 6, 8, and 10Gbps Service Without Network Infrastructure Upgrade

Disruptive Higher Performance Offering
At Competitive or Lower Cost Compared to Nearest Competition
By Leveraging The Latest Technology Advancements & Efficiencies (As Opposed To Accepting Below-Market Margins)

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Roll-Out

Phased Approach

Major Multi-City Locations Across France

Central High-Rise Buildings (Multi-Dwelling Units): Offices and Apartment Blocks

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Network Infrastructure

Unique End-to-End Fibre Optic Network Infrastructure Based On Innovative XG-PON1 Technology & Architecture

Carbon-Free (Passive) Network	Asset 100% Owned

Future-Proofed Scalable Network Lasting Over 25 Years Without Upgrades

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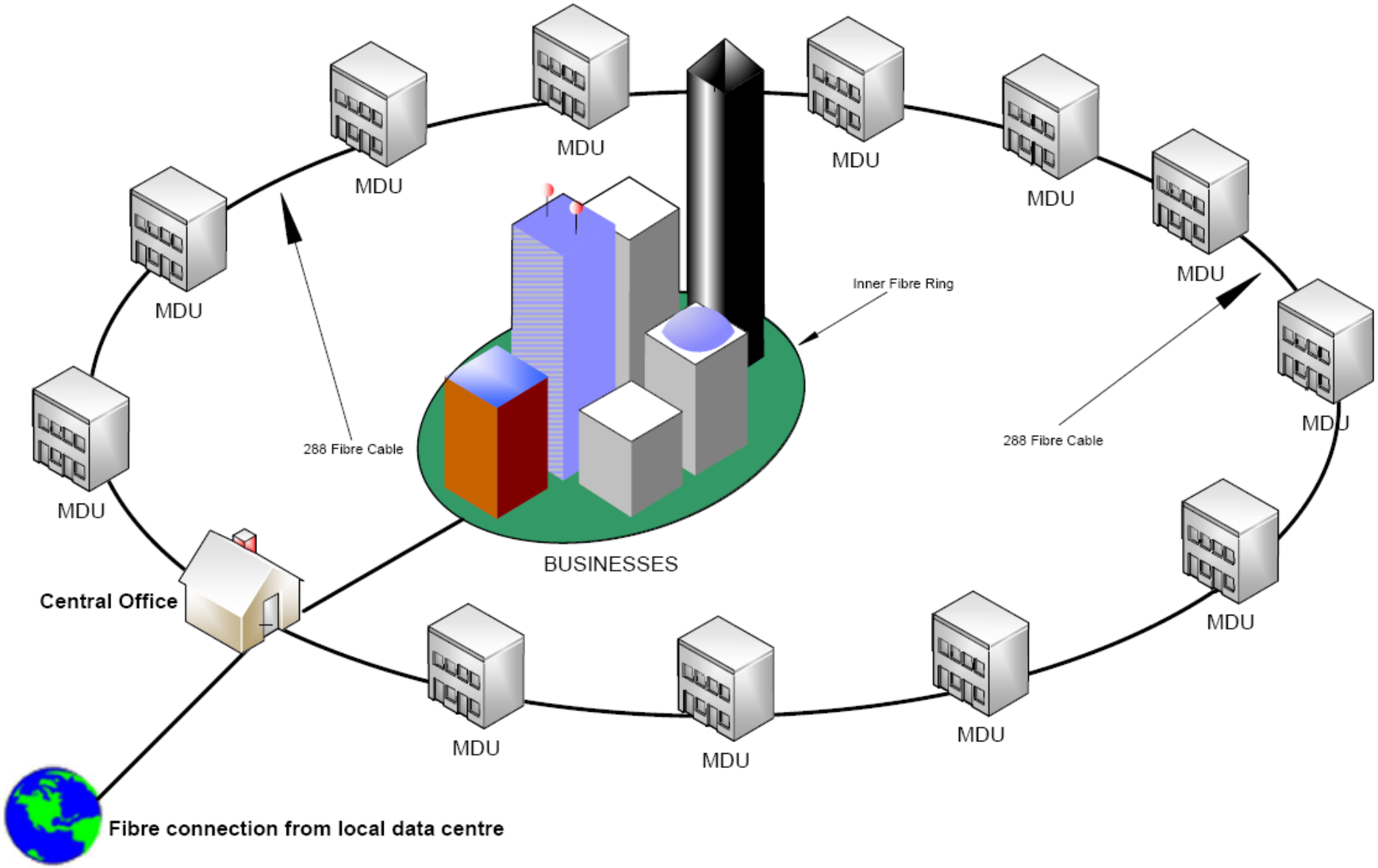
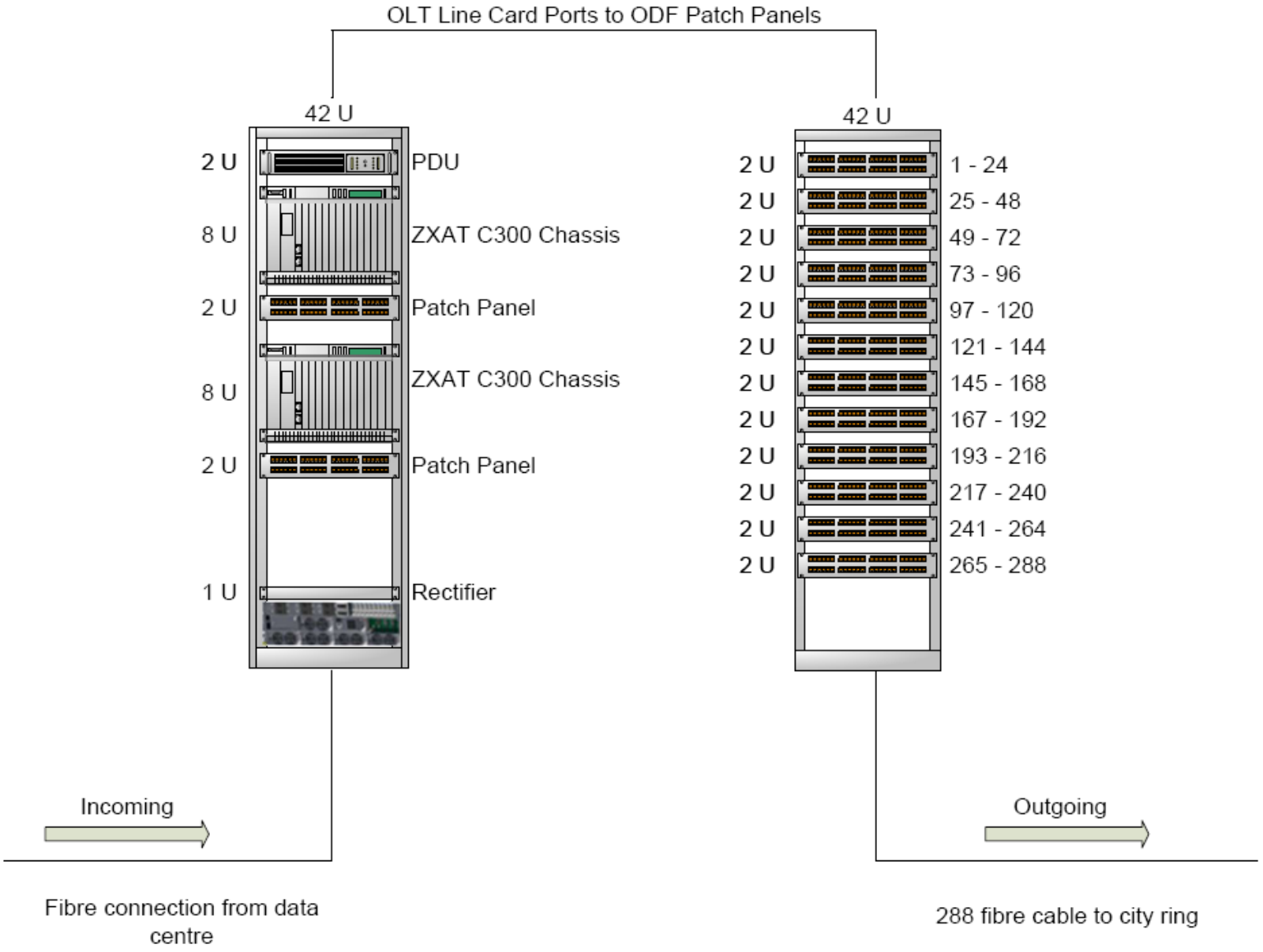
Minimum Infrastructure Construction/Civil Works Time & Costs (60% Reduction)

Lower Costs for Network Infrastructure Bandwidth via Local Data Centres	Utilise Existing Duct Space from Incumbent Infrastructure Owners	Revenue Optimisation Through Bringing Network To Only Central MULTI-Dwelling Units In City

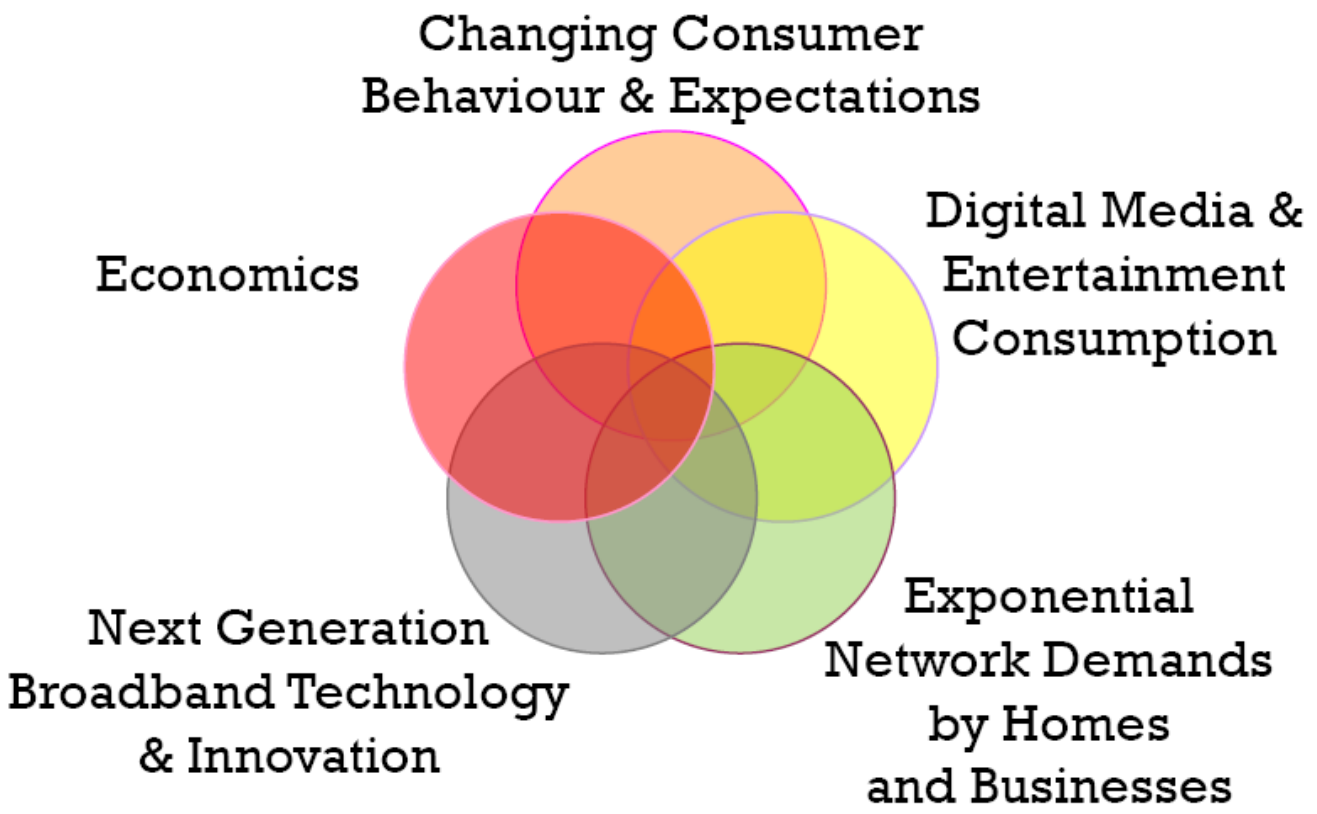
Network Architecture: External Network: Per City



Network Architecture: Central Office



Leverage Intersection of Emerging Developments, Trends, and Opportunities



If your plan is successful, what economic or market benefit will the technology convey?

The economic benefit that will be conveyed, based on a very conservative scenario of 30% penetration, from a total of 201,660 homes passed within five years, includes:

Year	FY1	FY2	FY3	FY4	FY5
Sales Revenue	€0.7M	€10.5M	€27.6M	€49.7M	€74.9M
Profit (EBITDA)	- €5.9M	- €3.3M	€3.6M	€12.4M	€22.4M

What, if anything, has been proven?

- XG-PON1 (10Gbps Passive Optical Network) trials have been conducted in Cornwall-UK by the main equipment vendor, ZTE, in partnership with telecom operator – BT (however Optics Networks will be the first operator in France to commercially launch such a network on a nationwide basis), where:
  - Superior 10Gbps downstream and 2.5Gbps upstream performance with low latency levels were achieved.
  - The performance was achieved over long distances - 20km (while we will only need to cover up to 5km maximum distance in each roll-out city, as we only focus on inner-city regions in each case).
  - High resiliency of the network and low power consumption were also demonstrated.
- The XG-PON1 network was commercially tested by ZTE using ITU-T G.987-compliant test schemes, which testify to XG-PON1's clear superiority in various scenarios especially for cloud-based enterprise services, video services and VoIP services.
- The network technology has been successfully deployed and commercially launched by telecom operators abroad, including Jazztel-Spain, China Mobile, Orange-Spain, and Telekom-Germany:

  http://mwc2016.zte.net/zte-release-industrys-powerful-xg-pon1-home-gateway/

How far is this from commercial scalability?

The technology solution can be commercially deployed and scaled nationwide in a phased approach with immediate effect.

What are the three major things that could go wrong?

- Not being able to meet deadline targets due to way-leave issues/delays for the affluent tenants/owners in city multi-dwelling units (MDU's). In that scenario, we also target Local Council MDU's in the city to make up numbers and sales targets.
- We are unable to get the full fibre infrastructure footprint we require from our network provider in terms of duct space capacity in certain city centre areas. In that scenario, we utilise P2P E-Band 5Gbps dual microwave links between buildings. This still gives us a complete fibre fitted out building without the use of copper cables.
- Data centre (carrier neutral) not being localised in the close proximity of the network build. In that scenario, we can use the slightly more expensive dark fibre provider/network carrier for the service.

How long will it take to validate the viability of the technology, through experiments or otherwise?

The business-model innovation can be applied and validated with immediate effect in our first target city of Paris, as all elements of the technology solution have also been proven, and partner relationships established.

Team

Who are you, and why are you qualified to lead this opportunity? What skills do you bring to this problem?

Bob Snowden:

- Affords over thirty-two years' experience building out fibre optic networks across EMEA having built some of the largest fibre optic networks in Europe with some projects in excess of £400 million value.
- Bob also has extensive management knowledge of planning and installing cable networks in lower grade Multi-Dwelling Units (MDU's), having acted as Project Director for NTL (now Virgin Media) delivering 685 MDU's in multiple towns and cities.
- Operations Head for Team Spirit a joint venture between COLT Telecom and Torch (now KCOM), this was one of the biggest single fibre construction projects in 2000. The project consisted of building two networks side by side, and constructing a total of 1,100 kilometres of four way duct infrastructure in each operators section. On completion of the primary duct infrastructure a 4-way sub-duct was installed in every 110mm primary duct and over 2 million metres of fibre cable blown in, spliced and commissioned within the two year programme.
- Managed multiple fibre projects simultaneously between 1999 and 2002 building multiple networks for Global Crossing, BT, NTL, Alcatel, Ocean Telecom, Eirecom, 186k, 360 networks, Telia, Swedia Networks, Telewest, Atlantic Telecom, Level3, Cable & Wireless Communications, Irish Multichannel TV. These first generation fibre networks were delivered in one of the busiest periods in the fibre construction deployment history, that is until now, where over the next five years here in France things are about to explode yet again, but this time with the new generation of fibre optic networks, such as what Optic Networks are delivering.
- Experience starting all the way from a trainee fibre engineer after leaving school at eighteen and moving up through the ranks and to holding various senior management positions within the fibre construction industry.

Richard Harris:

- Co-founder and Managing Director of JRC Communications Ltd, has over twenty-five years' leadership and hands-on experience in fibre optic roll-out projects. Presently runs a fibre operation managing around 35 fibre engineers for multiple clients.

- Worked extensively across Europe, managing and building large fibre trunk long distance networks (LDN's) across France, Spain, Portugal and Italy - covering tens of thousands of kilometres. Where network engineering project clients have included Telia, 360 networks, France Telecom-Orange, Level3 Communications, TATA Communications, Openreach, SSE Telecoms, Telewest Communications, 186k, and Metro Media Networks to name but a few.
- Extensive experience of managing large numbers of fibre optic network engineers especially in environments such as MDU's and long distance networks within a fibre engineering environment.
- Experience in the network engineering side, where complex network integration is required when deploying multiple services and sub-services, and affords extensive talent to succeed in large complex integration projects.

What technical skills will your team need to add?

Engineering
Planning & Way-Leave
Sales
Finance
Customer Service

What is the role of every member of your current team?

- Bob Snowden, Co-Founder, Chief Executive Officer & Engineering Manager
- Richard Harris, Co-Founder and Board Member

Are they the best possible people for meeting your current milestones?

The founders have a combined fifty seven years in delivering huge fibre optic network infrastructure projects across Europe. With this level of experience they both have the skills to lead, execute, and deliver on the current and long-term business goals and milestones - leveraging their experience of building previous huge multi million pound networks for some of the biggest names in the market.

What critical people, who could address your key risks, are missing, and where can you find them?

Missing are:

- Installation Engineering Sub-Teams
- Sales Executives
- Finance

Can find them through the founders' extensive industry networks and contacts

Milestones/Financials

It is important to understand your path to mitigating the technical risks you face. What technical milestones will this financing help achieve?

€6 Million Start-Up Investment (for 54% Equity Share + Board Seat) will:

- Enable the network infrastructure deployment and commercial launch of the pioneering ultra-high speed end-to-end fibre optic broadband service in our first target city – Paris, plus four other cities, and prove that our business model is effective and generates initial revenues.
- Foster and solidify relationships with partners and stakeholders.
- Provide an initial reference case city, to support similar innovation and roll-out in further cities.
- Recruit core team.

What are your future milestones, and how much capital will you need to achieve each? What is the company status and burn rate at each of these milestones?

FY2: Milestone: scale up to roll-out and launch services in five additional cities within France

- €6 Million Series A investment required.
- Company Status:
    - Early Stage: FY2
    - FY2 Cash Balance: €10.4 Million
    - FY2 Assets Value: €18.8 Million
- Burn Rate: Upon Milestone Achievement: Month 24:
    - Month 24: Net Burn Rate: €275,993
    - Month 24: Gross Burn Rate: €558,125

Month 24 Cash Balance and Burn Rates based on a worst case scenario of 30% Penetration Rate (9,684 Subscribers) out of Homes Passed (32,280).

FY3-5: Milestone: Scale business to cover a further fifteen cities within France (a total of 25 cities overall by FY5).

- NO extra capital required.
- Company Status:
    - Growth Stage: FY3-5
    - Month 60 Cash Balance: €57.3 Million
    - FY5 Assets Value: €97.0 Million
- Burn Rate: Upon Milestone Achievement: Month 60:
    - Month 60: Net Burn Rate: -€1,866,900 (i.e. a Negative Net Burn Rate)
    - Month 60: Gross Burn Rate: €1,445,012

Month 60 Cash Balance and Burn Rates based on worst case scenario of 30% Penetration Rate (60,498 Subscribers) out of Homes Passed (201,660), and NO Series B investment.

What are your contingency plans if things don't go well?

- Our initial target city is Paris which represents one of the cities with the 'lowest hanging fruits.'
- Our forecasts and modelling are based on a worst case scenario of homes passed rate (of just 201,660 by FY5) and only a 30% penetration rate (of just 60,498 subscribers by FY5), across a total of 25 cities – which will be easily achievable.
- Our business model derives revenues from multiple streams from our infrastructure – core broadband internet service, VoIP services, and from FY2 onwards, OTT (Over-the-Top) services such as Video On-Demand; as opposed to relying on just one revenue source.
- Our services are rolled-out and offered nationwide across multiple major cities, as opposed to relying on just one city.
- Our progressive mission, culture, and values – i.e. Identity, will be compelling enough to attract and retain customers as well as the best team.

What is your total and operating cash burn per month, in case months stretch into years?

Total (Net) Burn: €499,977 Per Month: Across 12 Month Period
Operating Cash (Gross) Burn: €366,288 Per Month: Across 12 Month Period

Market/Competition

Do you have a good understanding of the competitive landscape?

- The competing technologies in the broadband market are Fibre Optic, DSL/ADSL, Cable, and Satellite.
- The matrix below highlight the comparison of the major French competitors and their characteristics:

Residential Market				
Orange (Jet Fibre)	**Free**	**SFR**	**Bouygues Telecom**	**Optic Networks**
Fibre Optic	Fibre Optic	Fibre Optic	Fibre Optic	Fibre Optic (Pure End-to-End)
500Mbps Download	1Gbps Download	1Gbps Download	1Gbps Download	**2Gbps** Download (Scalable to 10Gbps)
€55.99 per month	€39.99 per month	€44.99 per month	€29.99 per month	€69 per month

Business Market				
Orange (Fibre Pro)		**SFR**	**Bouygues Telecom**	**Optic Networks**
Fibre Optic		Fibre Optic	Fibre Optic	Fibre Optic (Pure End-to-End)
500Mbps Download		200Mbps Download	1Gbps Download	**2Gbps** Download (Scalable to 10Gbps)
€96 per month		€59.50 per month	€690 per month	€345 per month (Service from FY2)

- Consumer buying patterns are based on four primary factors:
  - Service Availability
  - Price
  - Performance
  - Convenience

- In addition to our superior market product and disruptive price point, exclusive developments, especially brown-field sites look for solution providers who will aesthetically build their network infrastructure and equipment to fully blend in with the existing environment.

- Our installations are high end services, we use the latest G657.A2 fibre cable which has the best bending radius of any fibre cables on the market. These cables are hidden in small but very neatly installed coloured containments to fit in with the buildings internal environment. We utilise the best possible routes within the building to hide as much as aesthetically possible.

- Optic Networks will provide customers a market disrupting, 2-10Gbps, higher performance pure end-to-end fibre optic broadband service offering, at competitive or lower cost compared to the nearest inferior competition, by leveraging the latest technology advancements & efficiencies, as opposed to accepting below-market margins.

Are you comparing your company against technology competition in areas that matter to the end customer?

- Yes, on:
  - Higher Performance: downloads and uploads
  - Seamless Future-Proofed Scalability of Performance
  - Lower Latency: critical for rich media streaming, live, and interactive application areas
  - Greater Service Availability & Resilience: with our 100% owned and managed network infrastructure
  - Convenience & Improved In-Building Aesthetics
  - Competitive and Lower Price

How significant a step forward is represented by the technology or innovation?

Our broadband technology service offering is a major step-change in performance (starting at 2Gbps and scalable to 10Gbps without network upgrades) for the customer, but still at competitive or lower cost compared to inferior competitor services/products – as such our business-model innovation is industry-disruptive.

What impact will it have on the competition?

- We will win business that otherwise would have gone to competitors, as our offering is superior in all respects – higher performance, competitive or lower costs, future-proofing, and better customer service.
- Position us, over the competition, as the broadband service partner of choice for residents, businesses, and real estate developers and managers.
- Reduce competitors' prominence over time, while making Optic Networks the leader within the cities it targets.

Why can't a competitor replicate your plan tomorrow?

- Competitors are forced to recoup the massive investments in their inferior legacy technology and networks, which will take years. While we, being agile and having no legacy infrastructure, are able to leap-frog them and sustain our technology-based competitive edge over them, for the long-term.

Exit Strategy

What is the exit strategy for investors – an IPO, Sale, or Buy-Back; and within what timescale?

- The exit strategy for investors and stakeholders is a sale of the business within 5 years, with its lucrative network infrastructure assets (worth €97.0 Million in the worst case scenario), upwards of 201,660 homes passed, recurring revenue from customer base, and powerful market position (nationwide across 25 major cities within France).