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Executive summary:

The new AI-powered sunglasses LocaVision integrates location-aware technology and AR features to empower users through immersive experiences. A labelled schematic diagram of the features and hardware of the new product are included in this document. Customer segmentations are also defined, in which the main customer segments are travellers, tech/fashion enthusiasts and influencers. The smart glasses market was analysed. Key competitors were identified, and strategic planning on market penetration against those key competitors were made. Legal and security factors such as intellectual property rights that add/subtract value to the product are also summarized in the document. The product launch plan covering both pre-launch development stages and post-launch stages is detailed. The product will be launched in the UK in June 2026, and globally in December 2026. The project is expected to break-even by April 2027. The suppliers and partners for LocaVision are identified. Reliability, supply chain security and environmental sustainability were considered when choosing those suppliers. The annual budget is £21.5million. The cost breakdown structure is proposed, identifying the costs across most significant resources and activities. Labour costs, cost of semiconductor chips, marketing costs and distribution costs are one of the most significant areas of cost. Cost reduction opportunities were identified for later stages of the project post-launch. Ethical implications of the project were also discussed, covering user information security, design inclusivity, team inclusivity and sustainability. The use of OpenAI tools during the product development is discussed, including how to avoid significant risks, maintain ethics and prevent information from leaking into the public domain.

Document Changes Log:

Issue	Reason/Main changes	Date issued
-01	First issue	20/03/24
-02	Put graphical presentation of timeline into the product launch plan	31/03/24
-03	Add details about the cost structure of the project	15/04/24
-04	Rearrange the sections in a more sensible way	30/04/24

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Business Case

1. Brief Overview

LocaVision is an AI-powered smart sunglasses product. It integrates location-aware capabilities and delivers immersive user experiences on augmented reality (AR) displays. The hardware is complemented with a companion app compatible with various operating systems. Figure 1 illustrates the finished product and its key components.
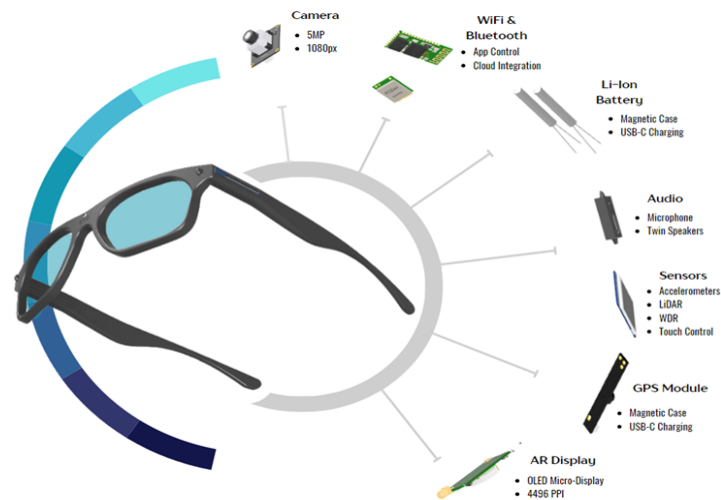

Figure 1: A schematic illustrating LocaVision and its key components.

STP has identified the following key features of LocaVision as the main contributors to product value:

Easy-to-use AR display: The micro-OLED lens displays provide an intuitive AR experience, with a plethora of overlays to enhance day-to-day convenience and immersivity. This is complemented with hands-free voice commands. This ensures the product requires little learning time, significantly improving accessibility for consumers who only possess basic technological know-how. This increases customer retention as users are far more inclined to continue using an easy-to-use device.

Powerful AI software: State-of-the-art machine learning is employed within the software, enabling extensive user personalisation through pattern recognition and tailored location recommendations. Algorithms are extensively optimised in beta testing to maximise reliability, building a trusted and functional product image. This will drive LocaVision's dominance over alternative offerings, justifying consumer investment in a more reputable and reliable product.

Location awareness and spatial recognition: Google Maps, a renowned and trusted location service provider, powers the product's location-assistive features. Coupled with the AR display, this offers a unique level of navigation capabilities. The spatial recognition capabilities also enable robust obstacle recognition and enhance the user's environmental awareness. These features massively appeal to frequent travellers, urban explorers and the visually impaired.

2. Customer Segmentation and Their Problems/Needs

STP has historically used a mono-segmentation approach, appealing to the high-end market. Post-pandemic, a multi-segment approach was employed. LocaVision's customer segmentation is outlined in Figure 2.
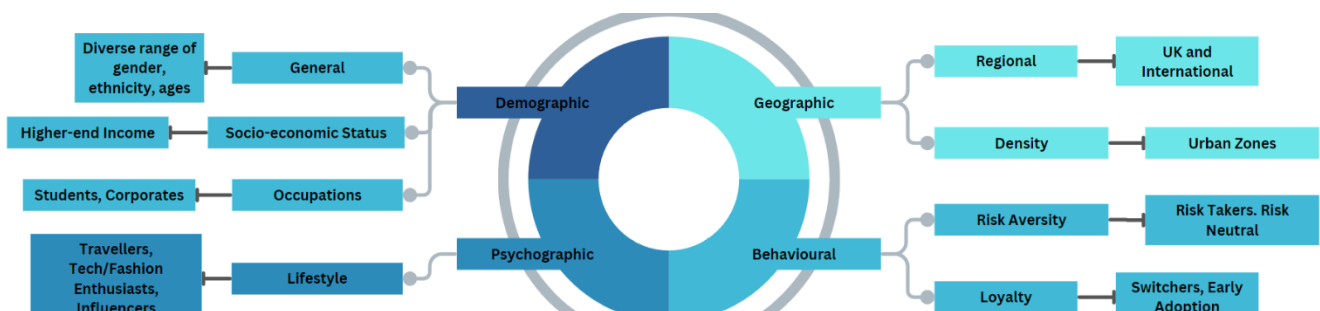
Figure 2: Customer Segmentation of LocaVision

Urban explorers require navigation tools for traversing through unfamiliar locations. The product offers real-time, contextual navigation guidance for enhanced outdoor experiences. Travelers seek immersive experiences and cultural insights during their journeys. LocaVision delivers proximity-based recommendations, such as tourist sites and venues. High-spending tech-enthusiasts prioritize innovation, so LocaVision's AI software embodies the latest advancements in

wearable tech. Fashion-forward consumers seek accessories that complement personal style, so a versatile and simple design is used.

3. Commercial Factors that add/subtract value to the product
Commercial factors that are considered include the market and competition, which are included below, as well as product lifecycle management, legal frameworks, and security considerations that can add/subtract value to the product.

3.1 Market and Competition

Key competitors are Apple Vision Pro and Meta Ray-Bans. The higher spec Apple Vision Pro sells at £2799 [1] while Meta Ray-Bans retail at £299 [2]. LocaVision has a recommended retail price (RRP) of **£270**, comparable to Meta Ray-Bans while offering more features. Consumers are less inclined to invest in lesser-known brands unless they provide a significantly higher utility-to-cost ratio. Hence, LocaVision offers numerous features such as location awareness, light and motion sensors and app compatibility. The global smart glasses market is projected to grow from £4.7 to £7.6Bn in 5 years. Based on the Bass diffusion model, STP expects to sell 500,000 units within five years of launch, achieving a 1.8% market share.

3.2 Product Lifecycle (PLC) Management

Costs are associated with developing LocaVision's unique selling features, such as combined GPS, AI, and AR overlay functionalities in the Research and Development (R&D) stage. Another value driver is an investment in primary market research techniques such as surveys, focus groups, and observational research at this time. Through these methods, precise refining techniques could be applied towards designing the final product that adds value and meets customer needs and wants. Final product testing and quality assurance are significant cost drivers. 9 personnel are employed within STP to assess durability and safety testing. This due diligence results in higher labour and overhead costs but improves product value perception. Manufacturing is outsourced to Foxconn, which has expertise in mass production and operational efficiency. LocaVision benefits from its economies of scale and streamlined production processes. Cost reductions will be implemented in later stages of the PLC, as detailed in Section 6.4. Supply chain process innovation, detailed in Section 5.4, improves the efficiency of production logistics. These factors further add value to the product.

Returned products, warranty claims and faulty products incur expenses. STP has maintained a policy of full refunds in case its technological support cannot resolve product issues. To minimise these costs, STP invests heavily in rigorous quality assurance and customer support infrastructure. This ensures customer satisfaction and adds perception value to the product.

3.3 Legal and Security

The primary contributor to the product value is its unique technology, particularly AI and AR capabilities. Legally protecting LocaVision, including patents, trademarks, and copyrights [4], is essential to prevent the unauthorised use of the protected property and counterfeit goods. They also act as a deterrence for the otherwise risk of infringement litigations [5].
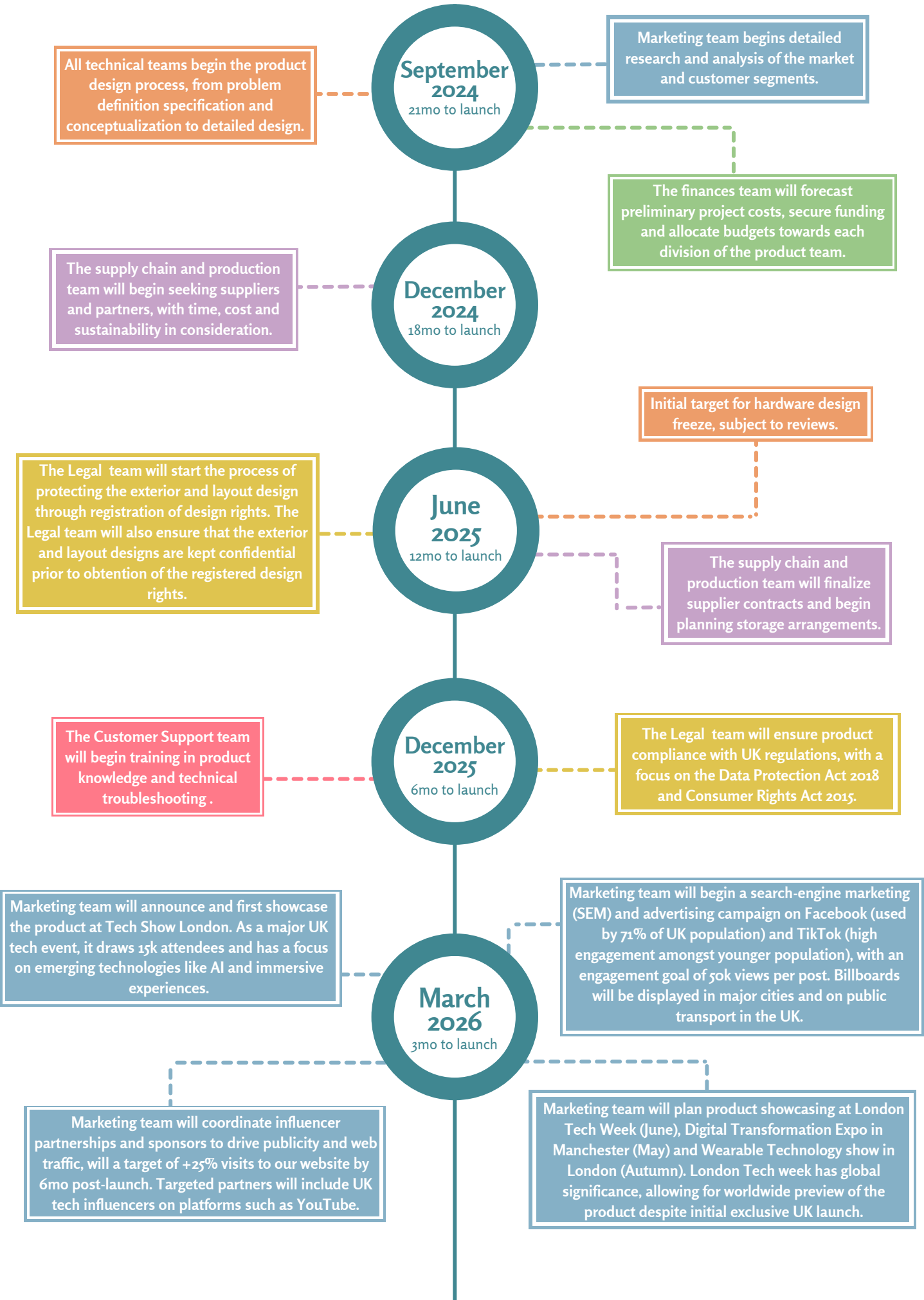
The project includes several patents as a necessary form of IP protection, which mainly protect the unique AI and AR/VR capabilities [6], classified under G05D 101 and H04N 13 [7], respectively, according to WIPO IPC standards. Other patent-contributing subsidiaries include software, user interface and display technologies [8]. Registered design rights also maintain value in visual branding [9] and are relatively inexpensive [10] yet guarantee that customer familiarity is met with technical quality and reliability. Registered Community Designs (RCDs) [11] provide value towards security, ensuring novel protection within the EU. Additional measures are taken in early development when appropriate IP protection is yet to be obtained, including standard practice of employee Non-Disclosure Agreements (NDA) signatures [12].

All retailers are required to enter distribution agreements outlining the terms for licensed use of LocaVision. As STP values the fostering of innovation within the technological sector [13] and acknowledges the contribution of marketplace cooperation, our principles are grounded in fair, reasonable, and non-discriminatory (FRAND) licensing [14]. This is especially true for leveraging the fair acquisition of standard essential patents (SEPs) from licensors and improving customer confidence. LocaVision also offers customers a one-year warranty and a free repair period, which increases the perceived value of the product.

LocaVision requires CE approval and marking to sell the product legally in the UK and EU. Failure to obtain CE approval will lead to legal challenges and financial losses. Production will conform to regulations through frequent third-party testing by TÜV SÜD. Software or hardware vulnerabilities and data privacy breaches can diminish customer trust, reducing product value and the risk of civil liability. Cyber security and data privacy measures will be enforced, as detailed in Section 7.1.

4. Product Launch Plan

This product launch plan outlines the preliminary timeline for the launch of LocaVision.

All technical teams begin the product design process, from problem definition specification and conceptualization to detailed design.

September 2024
21mo to launch

Marketing team begins detailed research and analysis of the market and customer segments.

The finances team will forecast preliminary project costs, secure funding and allocate budgets towards each division of the product team.

The supply chain and production team will begin seeking suppliers and partners, with time, cost and sustainability in consideration.

December 2024
18mo to launch

Initial target for hardware design freeze, subject to reviews.

The Legal team will start the process of protecting the exterior and layout design through registration of design rights. The Legal team will also ensure that the exterior and layout designs are kept confidential prior to obtention of the registered design rights.

June 2025
12mo to launch

The supply chain and production team will finalize supplier contracts and begin planning storage arrangements.

The Customer Support team will begin training in product knowledge and technical troubleshooting .

December 2025
6mo to launch

The Legal team will ensure product compliance with UK regulations, with a focus on the Data Protection Act 2018 and Consumer Rights Act 2015.

Marketing team will announce and first showcase the product at Tech Show London. As a major UK tech event, it draws 15k attendees and has a focus on emerging technologies like AI and immersive experiences.

Marketing team will begin a search-engine marketing (SEM) and advertising campaign on Facebook (used by 71% of UK population) and TikTok (high engagement amongst younger population), with an engagement goal of 50k views per post. Billboards will be displayed in major cities and on public transport in the UK.

March 2026
3mo to launch

Marketing team will coordinate influencer partnerships land sponsors to drive publicity and web traffic, will a target of +25% visits to our website by 6mo post-launch. Targeted partners will include UK tech influencers on platforms such as YouTube.

Marketing team will plan product showcasing at London Tech Week (June), Digital Transformation Expo in Manchester (May) and Wearable Technology show in London (Autumn). London Tech week has global significance, allowing for worldwide preview of the product despite initial exclusive UK launch.

Sales team will open pre-ordering two weeks prior to release. The RRP will be ~£270. We will offer 10% discounts for the first 100 customers. Black and white models will be available at first launch.

The Supply chain and Production team will release 20,000 products in the first batch, followed by 80,000 more in the following batches.

The Customer Support team will start full operation to assist, handle inquiries and take feedback. The target for first response time (FRT) for non-automated responses to customer enquiries will be 1 hour.

June 2026
UK Launch Month

The Sales team will launch the product exclusively in the UK, and activate the sales channel on our existing e-commerce site and Curry's. June selected for the seasonal relevance of the product- statistics show that sunglasses sales peak every June, and more travel and festivities take place in the summer period.

The customer support team will send out feedback surveys, receiving critics for improvement. The target engagement rate is 5%, and the target customer satisfaction rate of 90%. The target net promoter score (NPS) will be 60%.

The Customer support team will forward customer feedback to the relevant departments, so they can implement improvements. Any internal design changes or software updates will be made separately. Updates will be made periodically, so they can be packaged into a larger bundle. Software updates will occur monthly and hardware updates biannually, unless there is an urgent need for design change.

July 2026
1mo Post Launch

The sales team will analyse sales data to inform marketing team's decisions on adjusting marketing strategy.

The sales team expects LocaVision to enter the accelerating growth stage of its product lifecycle in October 2026

December 2026
6mo Post Launch

The Marketing team, assisted by the sales team, will begin world-wide launch at the January 2027 Consumer Electronics Show (CES) . CES is one of the most influential tech events globally, drawing over 100,000 attendees. Success here will drive sales and global recognition. Registration for participation must be done by Autumn 2026. Following CES, the product will be launched on Amazon, where it will be available globally.

The supply chain and production team will release 500,000 products worldwide over the next 2 years.

LocaVision is expected to break-even in April 2027 and sales are expected to peak in December 2027, according to sales forecast by the Bass diffusion model.

2027
Onwards

In June 2028, LocaVision is projected to be sufficiently mature for the project focus to shift towards process innovation. Production processes will be optimised heavily for cost reduction and efficiency.

The Bass diffusion model indicates that 90% of the 500,000 total units produced will be sold by September 2029. At this point, the executive team and project manager will decide on whether to continue LocaVision as a cash cow and when to retire it.

In June 2028, the hardware design team will collaborate with the marketing team to introduce new colours, as well as new variants in the product.

5. Supply Chain Logistics

STP's key partnerships and suppliers are critical to LocaVision's success, emphasising their role in enabling quality product manufacturing within reasonable economic bounds. STP has a long-standing relationship with these companies, assuring supply chain resilience and tested quality. STP also focuses on sustainability, security, and supply chain integrity, as well as process innovation techniques to enhance logistics and optimise operations to deliver a better financial outcome. The table below contains a list of LocaVision's suppliers and partners:

Supplier/Partner Names	Supplier Type	Location of Supplier	Service Provided
Mazzucchelli 1849	Component	Castiglione Olona VA, Italy	Zylonite Frame
Sony	Component	Tokyo, Japan	Camera
AMD - TSMC	Component	Taipei, Taiwan	GPU
ARM - Wistron	Component	Cambridge, UK	CPU
GoerTek	Component	Weifang, China	Motion, WDR, LiDAR sensors
Samsung	Component	Suwon, Korea	Micro-OLED Display
Anker Innovation	Component	Changsha, China	Rechargeable Batteries, Charging Port and Adapter
Broadcom	Component	Taipei, Taiwan	Wireless Charging Case
TCL	Component	Shenzhen, China	Speakers and Microphones
Skyworks Solutions	Component	California, US	GPS and Connectivity Modules
Micron Technology	Component	Hyderabad, India	RAM Memory Chips
Qualcomm	Component	California, US	Power Management
Hon Hai Precision Industry	Manufacturer	Longhua, China	Assembly
Rexam PLC	Packager	London, UK	Packaging Products
Google Maps	Partner	California, US	Location Services
Gentle Monster	Partner	London, UK	Exclusive Brand Outlets
Marc Jacobs	Partner	Bicester Village, UK	Exclusive Brand Outlets
UPS UK	Partner	London, UK	Transport and Inventory Logistics Management

The Original Equipment Manufacturers (OEMs) that STP has chosen to work with have years of experience providing services to high-profile clients. This aligns with LocaVision's long-term objective of entering the market with stellar product quality. It also ensures that the UK launch date set for June 2026 is fulfilled. LocaVision's unique selling point (USP) is its AI-powered location-aware features enabled through critical components like microchips, sensors, and microcontrollers. Based on the level of replaceability, volume of materials supplied and total cost per supplier for the elements that enable LocaVision's AI features, the key suppliers are Goertek, Wistron, Micron Technology, and ARM.

Moreover, companies like Goertek, Wistron, Broadcom and Anker are some of the most trusted players in electronics R&D. They possess the engineering capability to provide highly efficient technology for LocaVision's AI/AR features. In Taiwan, Hon Hai Precision Industry (Foxconn) specialises in high-volume manufacturing, ensuring that demand is met. Foxconn has a vertically integrated supply chain that manages the procurement of raw materials, component manufacturing, and final assembly. This allows them to optimise costs and ensure quality control. LocaVision's electronics suppliers are mostly based in Asia primarily due to massive production infrastructure and cheaper unit costs, as well as inexpensive labour and large infrastructures. Supplier selection is also based on achieving and maintaining customer satisfaction. STP imports Zylonite frames from one of Italy's most premium glass-frame manufacturers - Mazzucchelli 1849. A partner like Google Maps is a globally trusted GPS specialist which supports LocaVision's location-aware features. As for brand partnerships for LocaVision, the partners are considered based on improving product functionality and broadening audience attraction. Brand partners like Marc Jacobs and Gentle Monster hold products at a close price range, attracting targeted customer segments and enhancing product quality perception for LocaVision.

5.1 Environmental Consideration of Suppliers

Environmental considerations in sourcing components have become increasingly important in contemporary business management, as organizations recognize the potential impact of their supply chain activities on their ESG initiatives (Smith et al., 2020). LocaVision aims to follow this principle and assess environmental sustainability when choosing

partners and suppliers. STP considers each supplier's ESG reports for key sustainability metrics. Moreover, STP prioritises responsibly managed sources and eco-friendly manufacturing processes. Hon Hai Precision Industry has exceptional waste management [15], implementing 1,877 energy-saving projects with total carbon reductions of 306,204 tCO2e and having obtained an UL 2799 Gold-Level waste handling certificate for their factory in Longhua. The multi-national British packaging company Rexam PLC implements eco-friendly retail-packaging solutions, such as recyclable or biodegradable materials, reducing waste and environmental impact in the supply chain. The glass-frame was chosen to be made of Zylonite which is both biodegradable and recyclable. Overall, creating a circular business model with closed-loop supply chains where materials are reused, recycled and repurposed are a prime consideration for STP.

STP's chip supplier, Goertek, was granted the national-level green factory certification in China [16]. Its five subsidiaries were granted ISO50001 certification for standard energy management. 13 of its subsidiaries in Weifang, South China and Vietnam were granted ISO14064 certification for standard greenhouse gas emissions. One receiver was granted ISO14067 certification for qualified carbon footprint levels. They have 98 energy management system-trained internal auditors and 110 ISO14064 internal carbon verifiers working within the supply chain.

5.2 Import Charges and Tariffs

As LocaVision has many overseas suppliers, effectively managing import charges and tariffs becomes a critical aspect of STP's supply chain strategy. STP works with OEMs that leverage their expertise in international trade regulations and tariff management to minimise risk. Due to sensitive political circumstances, heavy due diligence would be required towards monitoring tariff restrictions for electronic components and semiconductor chips sourced out of China/Taiwan. STP has strong relations with logistics giant UPS, which handles truck-freight-based component transport to Foxconn and air-freight transportation of assembled products from the Foxconn factory in Taiwan to the UK. Working with UPS minimises risk, given their familiarity with UK import regulations and processing customs documentation [17].

STP has a contractual agreement with an insurance provider to purchase All-risk Business Interruption Insurance and Product Recall Insurance. These insurances cover financial losses from business supply chain interruptions, as well as product recalls, mitigating risks due to unforeseen disruptions in the Chinese/Taiwanese marketplace.

5.3 Security and Contracts

To prevent the leakage of STP's sensitive information to suppliers (or vice-versa), STP will conduct thorough information security vetting of the suppliers. This will include an assessment of security practices, compliance with regulations such as the Data Protection Act 2018 and past data-security track record. All sensitive communications with suppliers and partners will occur over encrypted communication channels. All contracts with suppliers and partners will include specific clauses related to data security and confidentiality, clearly outlining the responsibilities and obligations of both parties. Whenever an STP employee visits a supplier facility (or vice-versa), non-disclosure agreements (NDA) will be signed. Contracts with suppliers will also include specific clauses for penalties and agreed arbitrations in case of delays or quality issues. Every contract will be decided in the local operating currency, GBP, to protect it from exchange price volatility.

5.4 Supply Chain Process Innovation

STP is constantly striving for process innovation to ensure the efficient and sustainable delivery of LocaVision. This is successfully managed by leveraging Enterprise Resource Planning (ERP) software technology to optimise supply chain efficiency through supply chain automation and predictive analytics for increased end-to-end visibility. LocaVision is a consumer-packaged good, so demand is frequent and predictable, and customer requirements can be aggregated to offer a more general solution. As such, a batch production model is used. STP has implemented automated systems specifically designed to handle LocaVision's order fulfilment process. This includes offering retailers and customers real-time order tracking post-purchase from the STP website. LocaVision will also have a real-time inventory management system that utilises barcodes and RFID. In addition, by analysing historical data of previous STP products and incorporating regional demand forecasts, STP utilises the Just-in-Time (JIT) inventory method. This ensures that LocaVision will be available in the right places at the right time, minimising the risk of stockouts and overstocking.

6. Cost Structure

The LocaVision Cost Breakdown Structure (CBS) establishes effective resource allocation and financial viability as a business venture. The proposed cost structure encompasses various vital resources, key business activities and channel costs. It introduces an organised way to identify cost-saving opportunities, which, along with sale revenue, would help build healthier margins for LocaVision.

A cost analysis was conducted for the first product launch of LocaVision in the UK, which had a deliverable quantity of 100,000 units in the first year. This CBS summarises the initial projected costs of the project, and is subject to variation through various stages of the product lifecycle. It is expected that the price per unit will decrease over the course of the product lifecycle through the implementation of various cost-reduction strategies, which will be discussed later. The CBS forecasts an annual budget for the LocaVision project of approximately £21.5 million. This aligns with our maximum permissible yearly investment of £28 million, which includes emergency funding.

6.1 Key Resources

Figure 3 presents a chart which illustrates the distribution of critical resource costs for the product. It includes the costs associated with raw materials procurement and labour costs. Unit material costs are considered to monitor total budget allocation and calculate the margin on a unit product. All cost values are extracted from each supplier's catalogue, which accounts for seasonal price variation.
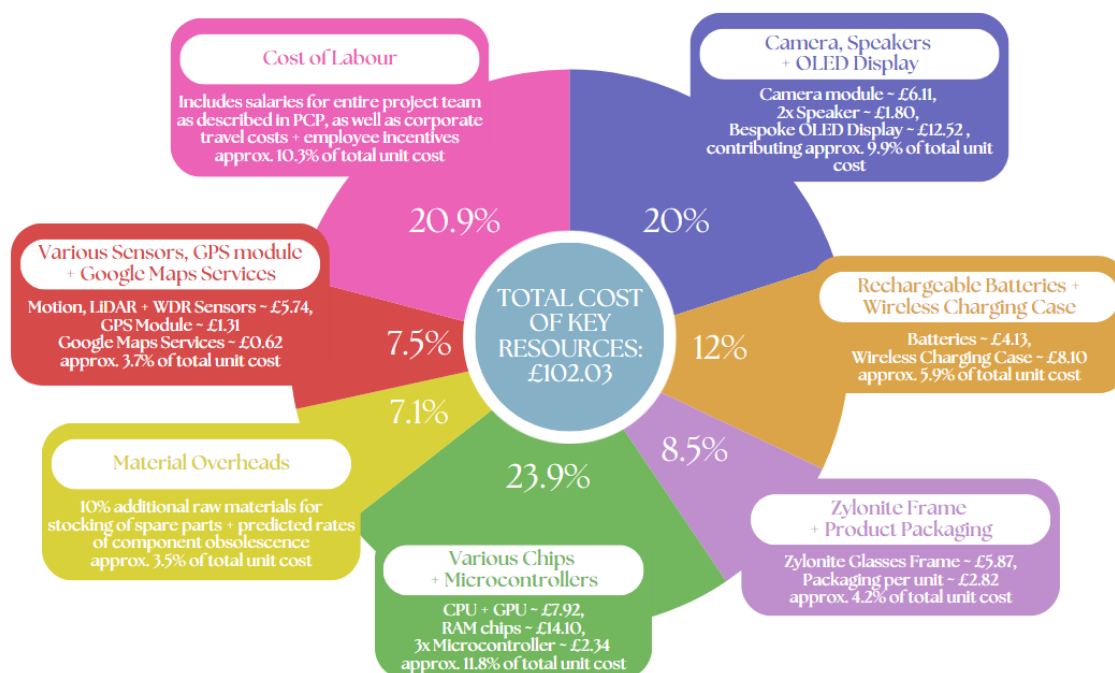
Figure 3 – Pie chart breakdown of essential resources costs.

Key resource costing enables Earned Value Analysis (EVA) in later stages of project management, which is a metric used to monitor the level of completion – quantified by the number of LocaVision products management vis a vis project budget allocation of £21.5 million. The tool also helps in time-phasing, evaluating the cadence at which this budget is consumed vis a vis the project progress time. This allows an enhanced understanding of the evolving margin of safety for budget spend with time and contractual alignment, enabling better-informed decisions towards costs such as marketing.

It is important to consider the product-associated human resource costs along with raw materials as part of key resource cost estimation. In accordance with the project communication plan, the product-specific team consists of 63 employees working in functions ranging from project management, marketing, sales, financial to legal. As a UK-registered enterprise, employee compensation at STP has always been determined through Wage and Salary Administration, involving job analysis and evaluation, market pricing studies, pay grades and incentive plans. Additionally, all labour wages are contractually agreed to rise in line with the year-on-year inflation rate in the UK.

Post cost considering LocaVision's key resources, the cost of materials and labour per unit product is £102.03, providing a healthy current Earnings Before Income Tax Depreciation Amortization (EBITDA) margin of 62.2% considering a price per unit of £270, which is an accounting metric for the financial viability of a venture. The current margin provides sufficient allocation of profits.

6.2 Key Activities

In Figure 4, STP's largest budget allocation within key activities go towards production, software development and the marketing for LocaVision; STP believes that outstanding product quality and user experience coupled with marketing

maximises long-term value in terms of healthy sales growth. The Foxconn manufacturing contract entails production costs for an annual order of 100,000 units as given below. Software development costs primarily consist of technical facilities required. Marketing costs are mainly targeted towards primary and secondary market research and performance marketing. Key activities costs were produced using historical data from STP products and similar products within the tech industry. These costs are estimate values and are subject to seasonal variation.
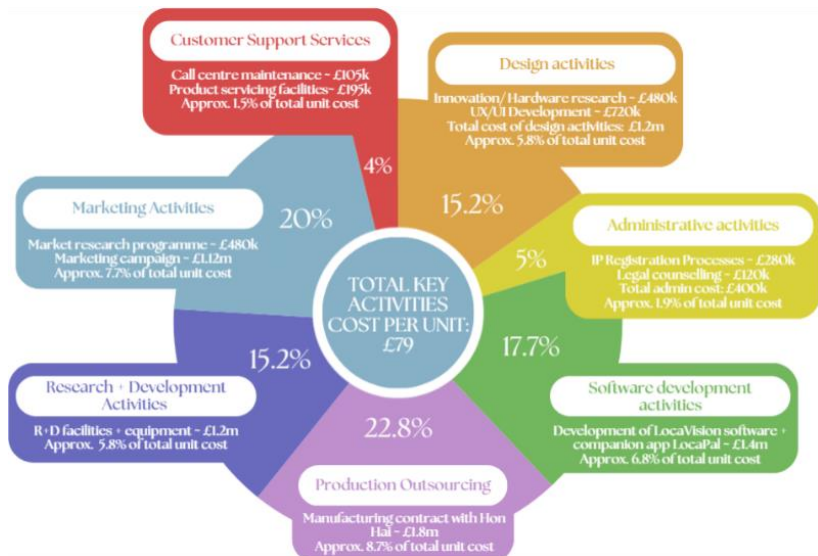
Figure 4 – Pie chart breakdown of essential activity costs

After considering key resources and activities, the total unit cost comes out to be £181.03, providing a new EBITDA margin of 33%. The healthy margins indicate that STP still has room to spend on distribution logistics and overall channel execution.

6.3 Channels

Preliminary informed estimates forecast this to contribute to around 16% of the cost of delivering the project, with the constituent cost estimates summarised in Figure 5. These are based on 3rd party distributor quotes and historical CBS analyses from past STP projects.
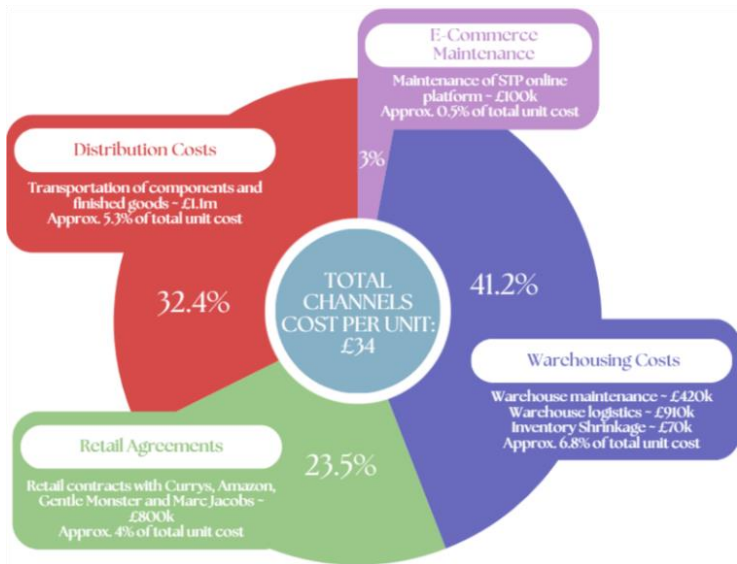
Figure 5 – Pie chart breakdown of channel costs

The most significant costs associated with channels by far are the amounts payable to UPS for the outsourcing of distribution and warehousing. More specifically, warehousing costs include UPS logistics services, maintenance, and accounting for inventory shrinkage. The logistics services provided to STP include warehouse management and inventory tracking services. Promoting contractual negotiations with UPS remains a priority in this aspect to improving margins. Maintenance comprises leasing and utilities costs. The inventory shrinkage cost is based on previous projects and accounts for theft, damage, or obsolescence of goods and tracking system inaccuracy. Retail agreement costs and

maintenance costs for STPs e-commerce platform are historically likely to remain stable, however warehousing and distribution costs are prone to seasonality and thus general fluctuation.
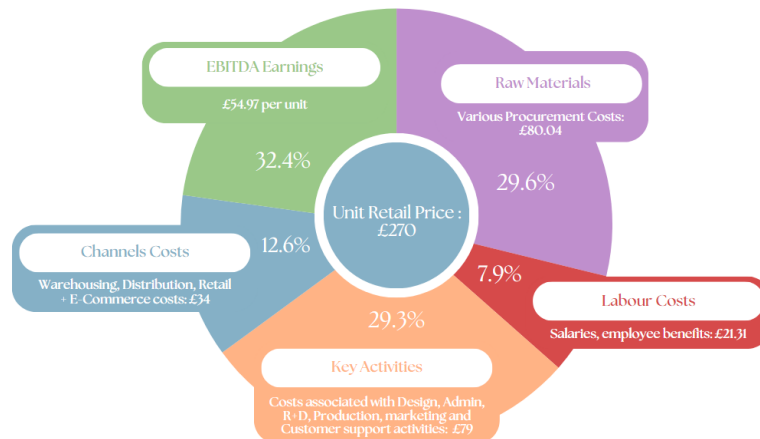

Figure 6 - Pie chart breakdown of all the costs in percentages.

Post accounting for crucial resources, activities and channel costs, the unit economics pie chart above predicts a unit cost of £215.03 for the fulfilment of a single product order, yielding a final EBITDA margin of 20.4%.

6.4 Cost Reduction Opportunities

Through the cost analysis process for LocaVision, STP has identified priority areas for cost reduction. Based on the highest budget allocation areas and areas predicted to save cost, the cost reduction opportunities are production/supply chain streamlining, efficient marketing strategies and achieving a circular economic model. Figure 7 shows the timescale for the implementation of these key cost-reduction opportunities relative to the product lifecycle.
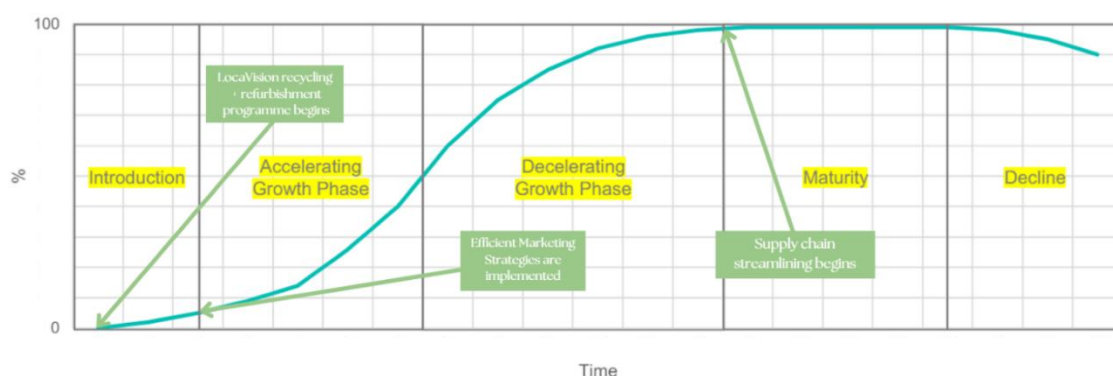
Figure 7 – Product life cycle

Production/Supply Chain Streamlining: Since production costs in Figure 4 seem to be a significant contributing factor to driving margins lower, STP can focus on production/supply chain streamlining. This would allow flexibility in reconfiguring assembly lines, adopting lean manufacturing principles, and implementing just-in-time inventory management. STP plans to shift focus towards this production process optimisation shortly before LocaVision enters its maturity phase. Automation and end-to-end supply chain visibility software, as reinforced in Section 5, could also be introduced to minimise inventory holding costs and enhance operational efficiency. This could significantly reduce costs in LocaVision's maturity stage, as STP would have the highest inventory at this time. High raw material costs shown in Figure 3 could be curbed by negotiating favourable terms with suppliers. This involves bulk purchasing, establishing long-term partnerships, or optimising logistics to minimise transportation costs. STP targets to reduce the cost associated with procuring Zylonite frames, micro-OLED displays, and the wireless charging case through bulk-buying compared. This strategy will be implemented when the sales team finds an indication that LocaVision has entered its maturity stage when STP's order value from Foxconn is highest.

Efficient Marketing Strategies: Optimizing digital performance marketing efforts can significantly improve return on investment and reduce customer acquisition costs. To implement this, a strong focus on data-driven strategies, such as targeted advertising, Search Engine Optimization (SEO), and social media marketing will be made. This strategy will be executed shortly after the release of first batch of products, in the growth stage. In the introductory phase, it is essential to target market expansion to promote a greater rate of return throughout the LocaVision growth stage, and potentially

break-even sooner than expected. Concentrating expenditure at this critical point in the lifecycle will reduce overall project marketing costs. STP has confidence in this strategy given its excellent rate of return in previous STP projects.

Circular economic model: The return of LocaVision components back to the company, regardless of condition, is encouraged. This will enable the refurbishment of parts for use in the production of new finished goods, significantly reducing procurement and manufacturing costs. This strategy will be implemented from the start of the project, with customers made strongly aware of used product/component return methods directly to STP.

7. Ethics and Corporate Social Responsibility

STP pledges to thoroughly assess ethical implications throughout the LocaVision project, extending beyond the statement of ethical principles by UK-SPEC. This encompasses user information security, environmental and sustainability, inclusive product design and team inclusivity.

7.1 User Information Security

Since LocaVision is centred around its location awareness, STP is aware of the anticipated concerns surrounding user information security. We extend beyond the Data Protection Act 2018, adhering to the ISO 27001 standard on information security management. Mitigations will be implemented through solid encryption protocols for data transmission, enabling easy-to-access privacy controls for users to manage settings, and routine security assessments.

7.2 Environmental and Social Sustainability

Carbon emissions, renewable energy usage, raw materials sourcing, and fair labour practices are prioritised in the selection of suppliers. LocaVision is designed according to BS-8887 standards on disassembly and end-of-life disposal. Recycling and waste reduction programmes are also implemented, encouraging users to return out-of-use components/ products directly to STP. LocaVision's AI will provide recommendations promoting a healthy lifestyle for users. The project fosters technology innovation and increases opportunities for jobs and research partnerships.

7.3 Inclusive product design: Accessible and Welcoming to all

LocaVision incorporates features that cater to diverse preferences and identities within the target market. This includes versatile frame styles, adjustable nose pads, and interchangeable temple arms, ensuring a personalised fit for all users. The colour palette is gender-neutral and universally appealing to all skin tones. The display is colour-blind friendly, and light-filtering lenses are available to suit all types of colour blindness. By employing a 'design for one, extend to many' approach, LocaVision will be accessible to users regardless of disabilities, which will also benefit users with situational limitations. Algorithm bias is addressed through diverse data sourcing and beta testing for detection and mitigation.

7.4 Inclusivity within the project team

An inclusive LocaVision is only possible through inclusivity within the team. The project team, from engineers to market researchers, includes a diverse range of races, genders, sexual orientations, backgrounds, disabilities and ages. Mandatory EDI training is provided for all employees, including the prevention of unconscious bias to foster inclusivity. The unique skills, experiences and perspectives of every team member are valued. Creating a sense of belonging is the responsibility of every team member, promoting effective collaboration and utilising the strength of diversity.

8. Use of OpenAI in the development of LocaVision

OpenAI will be used in the development of the new product, LocaVision. Currently, in the UK and EU, legal regulations on AI are still being deliberated and are being outlined in whitepapers [18,19]. Regardless, we will be using OpenAI ethically and cautiously in places that can have the benefits with the most minor risks, following the EU's proposed AI Act [20] and Partnership on AI ethical guidelines [21].

OpenAI will not be used to process any biometrics, as it is considered an unacceptable risk according to the EU's proposed AI Act [20]. LocaVision's software has the capability of recommending healthcare tips and healthy lifestyles, but users will have to agree to a disclaimer that this is not a replacement for medical treatment. This is because any medical usage of AI is considered high risk under the EU's proposed AI Act [20]. OpenAI will not be used in decision-making in the development of LocaVision because decisions made by AI can be unjustifiable, unfairly discriminative, and lack human judgement [22]. LocaVision's software development process contains machine learning processes, which require the usage of data collected from many individuals. OpenAI will not be used solely to make decisions on processing these personal data, as it infringes Article 22 of EU-GDPR [23]. OpenAI will be used to summarise information obtained from market research and assist our software developers with code. However, even in these areas, OpenAI will not be solely relied on. Human reviews will always be involved as agreed in the terms of use of OpenAI [24]. For concept generation, OpenAI will be used to complement the concepts brainstormed by our design team. There is no concern about being unable to obtain IP protection, as OpenAI grants the user ownership of both input and output [24]. We will also opt out of the option for OpenAI to use our content to train their models [24]. This will prevent our information from leaking publicly.

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