Advanced Material

This Advanced Material contains a pre-seen case study provided to students prior to the exam date. Students should familiarise themselves with the Advanced Material before they sit the exam. The Advanced Material provides key information and forms the basis of the requirements set out in the exam day materials. Students should carry out research into the sector and apply learning from the workbooks.

Exam: Developing Strategy and Data Analysis

Exam Sitting: March 2025

Advanced Material

Assumed date for advance material is 5 February 2025

YOUR ROLE: You are a qualified CIPFA accountant assigned to a multi-disciplinary team which is reviewing the strategic development of technology parks in Vilenia, and advising on how these can be further developed.

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Exhibit 1 – Vilenia: background information and main industries

Vilenia

Vilenia is a country centrally located in Europe where English is one of the official languages and is widely spoken. Although part of the Schengen area, Vilenia has retained its own currency – the Vilenia dollar (V$), which is at parity with the Euro.

The country has a surface area of 25,670 sq.km with over 250 kilometres of coastline extending the full length of the western side of the country. In 2023 the population was 10.6 million people.

There is a good road and rail network throughout the country and links to other countries in Europe by air, sea, road and rail. There are two large international airports, one in the west near to the capital city, Margosa, and another in the south near to the city of Borwich. Both cities have world-renowned research universities.

Main industries

The main industries in Vilenia were historically forestry, light manufacturing and tourism, with over 10 million tourists visiting the country each year. However, in recent years this dependence on a few key industries has become a significant concern for the Vilenian government.

Focus on technology industry

By 2015/16 the existing technological expertise within Vilenia's universities was creating spin-out businesses based on new technologies, so the Vilenian government started to explore the possibility of developing a major new focus on technology industries in Vilenia. This would capitalise on Vilenia's central location in Europe to attract international

investors and enhance the country's global competitiveness in the technologies and industries of the future.

The government decided to build this new focus by recognising existing technology hubs (tech hubs) in Vilenia. Tech hubs are locations where multiple organisations – such as universities and businesses – have significant expertise in technology. The government's plan was for technology parks (tech parks) to be built within these tech hubs. Tech parks act as incubators for new ideas, collaboration, and innovation. Crucially, over time they become technology ecosystems that act as catalysts for the creation of new businesses and jobs.

The Vilenian government recognised the first two tech hubs in Margosa and Borwich, anticipating that the resulting tech parks would strengthen both the Vilenian economy as a whole and the local economies, delivering both public and business value.

Exhibit 2 – Vilenia's technology parks

Designating tech hubs in Vilenia

A tech hub arises where a high density of established and start-up technology companies cluster together and became part of the economic infrastructure of the community. Tech hubs usually develop, organically or in a planned way, around a university with strong technology and research aspects.

The government-designated tech hubs in Margosa and Borwich developed around their big research universities, which each have a focus on the following technology specialisms: Artificial Intelligence (AI), machine learning and related advances; Quantum technologies; robotics and automation; and biotechnology, medical technology, genomics and synthetic biology.

Emerging Quantum technologies are particularly critical as they are expected to have a key impact on Vilenia's long-term digital and economic future. Quantum technologies will enable the development of smart cities, revolutionise healthcare systems and drive innovation in key industries, all of which are objectives of the Vilenian government.

The Vilenian government's **Ministry of Trade and Industry (MTI)** was mandated to oversee the tech hubs, and in December 2017 MTI created the autonomous **Tech Hubs Directorate (THD)**.

In 2023 the THD created the **Tech Hub Venture Capital (THVC)** entity, after the THD realised that one of the impediments for tech hubs was sourcing venture capital funding. This funding is required by tech hubs for establishing and building tech parks, and for encouraging businesses to locate in the tech parks. THVC has access to a wide range of resources and works in partnership with a long-established international venture capital firm, located in Taiwan, that pulls in venture capital from international sources.

Creating tech parks in Vilenia

The Vilenian government allocated initial funding of V$95 million in its 2017 budget to support the establishment of a tech park by each of the tech hubs in Margosa and Borwich. The tech parks needed to be located on greenfield sites with full infrastructure such as roads and lighting, and sufficient space for future expansion. Funding to develop further buildings in these initial tech parks, and to establish and build other tech parks, was expected to come from local councils, universities and businesses operating as consortiums.

Building of the first tech park in early 2018 near to Margosa was funded by a consortium of the Vilenia government, Margosa City Council, Margosa Economic University and two local businesses. The second tech park was built near Borwich in 2020, funded by a consortium of the Vilenia government, Borwich City Council, Borwich City University and two local businesses.

The two tech parks are owned by their respective consortiums.

The tech parks are modelled on best practice from other countries, notably the UK. Both comprise campus-style clusters of buildings, some of which are multi-occupancy and others of which are single occupancy. Some buildings are created as offices while others are constructed as research and development laboratory spaces. Offices and laboratories range from $32m^2$ to $790m^2$ in size.

A 'Build to Suit' option is also feasible, enabling the construction of bespoke buildings up to $9,290m^2$ in size.

Tech park data as at 31 December 2024

	Margosa Tech Park (MTP)	**Borwich Tech Park (BTP)**
Total size of park	152 hectares	175 hectares
Number of separate buildings in the park	5	6
Number of firms located in the park's buildings	15	35
Number of international firms occupying space in the park's buildings	6	10
Total number of people employed in the park	1,487	3,250

Funding for tech parks

In March 2019, MTI launched the **Vilenia Tech Parks Program (VTPP)**, managed by THD. The aims of VTPP are:

- to bring together diverse public, private and academic partners into collaborative consortiums focused on establishing and building further tech parks in Vilenia
- to provide each consortium with initial financial support to acquire a greenfield site and build a tech park.

Each new consortium must include, as a minimum, a research university, local government and appropriate local businesses. If an appropriate economic development

organisation exists then this should also be included. Note this was not the case with MTP and BTP.

International tech park developers are eligible to apply for grants from the VTPP when building a tech park, provided they are in a consortium arrangement with organisations based in Vilenia.

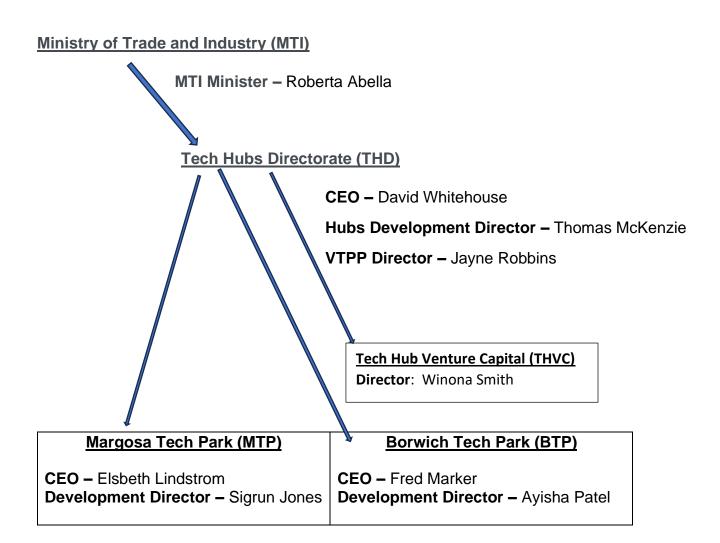**Exhibit 3 – Organisations and departments involved in technology parks**

Ministry of Trade and Industry (MTI)

MTI Minister – Roberta Abella

Tech Hubs Directorate (THD)

CEO – David Whitehouse

Hubs Development Director – Thomas McKenzie

VTPP Director – Jayne Robbins

Tech Hub Venture Capital (THVC)
Director: Winona Smith

Margosa Tech Park (MTP)	**Borwich Tech Park (BTP)**
CEO – Elsbeth Lindstrom **Development Director –** Sigrun Jones	**CEO –** Fred Marker **Development Director –** Ayisha Patel

Exhibit 4 – Terms of reference for the review of the technology parks

In September 2024 the MTI proposed a review of the development of tech parks in Vilenia.

At a meeting on 4 October 2024 it was agreed that a multi-disciplinary team would be formed, comprising staff from THD and two external advisors. The THD staff would include a technology expert, a marketing specialist, a qualified CIPFA accountant seconded from the Finance team and a manager from the Margosa Tech Park. One external adviser would be an expert in new technologies and the second external adviser would be a specialist in the development of tech parks.

The remit of the team is to review the development of tech parks in Vilenia and advise on how they can be further developed in order to achieve government objectives.

The deadline for the review to produce a preliminary report is 09 March 2025.

The team was reminded of the key government objectives in developing tech parks:

- Reduce the country's dependence on forestry, light manufacturing and tourism.

- Capitalise on the technological expertise within Vilenia's universities.

- Enable the creation of tech hubs and parks which will develop into technology ecosystems that act as a catalyst for the creation of new businesses and jobs to bring both public and business value.

- Capitalise on Vilenia's central location in Europe to attract international investors and enhance Vilenia's global competitiveness in the technologies and industries of the future.

- Benefit from developments in Quantum technologies to enable the development of smart cities, revolutionise Vilenia's healthcare systems and drive innovation in key industries.

Exhibit 5 – Transcript of interview about Margosa Technology Park (MTP)

The following interview took place between Sigrun Jones (Development Director, MTP) and Nathan (MBA student at Margosa Technical University)

Nathan: Thank you for agreeing to this interview about Margosa as a tech hub and specifically about MTP, the Margosa tech park.

Sigrun: It's my pleasure. I'm glad you're making the distinction between Margosa being designated as a tech hub and the Margosa tech park. Given that Margosa is a tech hub it's quite possible that in years to come we will have other tech parks, especially as there is additional land available near to Margosa.

Nathan: What would you say were the key factors for a thriving tech park?

Sigrun: There are quite a few factors at play when you're developing a thriving tech park: access to a diverse talent pool across various disciplines, especially STEM (science, technology, engineering and maths) disciplines; collaborations among schools, colleges, universities and the tech community to develop comprehensive STEM education programs that prepare students for careers in the technology sector; the nature of the key company in a tech park, known as the 'anchor tech' company, which can be a large, established business or a new venture (a "start-up") that is proving to be very successful and is ready to scale up; access to funding for companies joining the tech park; and of course government support such as tax incentives for start-ups, streamlined regulatory processes, and investment in infrastructure. These all impact the success of a tech park.

Of course, a robust digital infrastructure with reliable and fast broadband connectivity is crucial, especially when you want to tap into global markets and grab opportunities for worldwide expansion and collaboration.

Also, to encourage people to remain in the wider area designated as a tech hub, or to move there, you need affordable housing, an attractive natural environment, good schools and healthcare, a vibrant cultural scene, and access to recreational facilities.

Nathan: So these would be the resources that are needed?

Sigrun: Yes, you could say that – some are basic or threshold resources, while I've mentioned others that are specific to MTP – distinctive resources, if you like.

Nathan: Do the factors you've just referred to also apply for firms that are considering participating in the tech park, especially international firms?

Sigrun: Most of them. For firms from other countries – and we do have several already, with more being screened – high-speed bandwidth is a non-negotiable. They want to know what other firms are in the tech park, as collaboration can bring innovation and new ideas. They also want there to be at least one research university in the area designated as a tech hub. Investment funding sources are important, and a start-up would want to see a history of successful outcomes for start-ups. They would also look for a supporting ecosystem of banks, accountants and lawyers, maybe also a mentoring network. If they're bringing over key staff then an international firm wants a favourable urban environment – affordable housing, good amenities, roads and public transport, good schools and healthcare. Most of their staff are likely to be sourced locally however, so a pipeline of local technology talent is important. Margosa offers all of these. And, of course, firms are looking for a favourable regulatory and tax environment, which Vilenia is able to provide.

Nathan: What are the specific competencies of MTP?

Sigrun: You mean our distinctive competences? Well, we have a very charismatic CEO who is brilliant at building relationships with the university and business community, at

home and internationally, as well as building a great community spirit within the park. We have technical experts in emerging fields such as Quantum technologies. In addition, through the Tech Hub Venture Capital (THVC) partnership with an international venture capital organisation located in Taiwan, we can access venture capital financing. We also have our own intellectual property (IP) specialists who are experts in patent searching, so assist with IP planning and so forth. We are also able to assist start-ups with prototyping and manufacturing products through the partnerships which we've developed.

These are all really distinctive competences, but we have basic, threshold competences as well, like admin support, marketing people and so forth.

Nathan: How do you get firms to join the tech park and on what terms? Are they all private companies or is the Vilenia government involved?

Sigrun: Some apply to join, some are invited. They all pay a fee for being involved in the hub and obviously rent and other service charges for the buildings they occupy in the park. The Vilenia government doesn't get directly involved, other than by providing the funding that is available through the Vilenia Tech Parks Program or VTPP.

Nathan: How many firms do you have from other countries? How many start-ups do you have?

Sigrun: Currently 30% of firms operating within MTP are start-ups – often new ventures which have been started by students in the course of their university program. These go through the stages of entrepreneurial growth and invariably go on to be 'First Movers' in their sector in new markets, including in countries outside Vilenia. As to firms from outside Vilenia, we have six at the moment and more applicants are being screened.

Nathan: Do you have criteria for approving a firm that applies to join the tech park?

Sigrun: Yes, of course. They usually need to be working in one of the technology sectors that Margosa's tech hub is focused on. Whether the relevant industry life cycle is in its embryonic or growth phase is also relevant. Having said that, we have some firms operating within MTP that are already in their mature stage; we know these firms are sustainable and scalable, and they add experience and stability to the tech park. We don't accept a firm with a technology that's already in decline. In addition, we consider the speed of diffusion of innovations in the marketplace since this would impact on how soon a start-up firm would potentially turn a profit. Quantum technology is the big thing at the moment. We're modelling ourselves on the UK as far as that technology is concerned. The firms also need to be capable of bringing both public and business value.

Nathan: Public and business value? That reminds me of Moore's Strategic Triangle, which we studied last year.

Sigrun: Yes, that's right.

Nathan: A final question: to what extent did Covid impact MTP?

Sigrun: Well, before the pandemic the Vilenian government intended to establish more physical tech parks on greenfield sites with space for expansion, as is the case with MTP and also the Borwich Tech Park (BTP), but the pandemic accelerated the trend for hybrid working and full home-working. If you add to that the rise in countries offering digital nomad visas, it has become possible for a tech hub to be a viable proposition without it occupying a physical location such as a tech park. The introduction of a favourable nomad entrepreneur visa in Vilenia in 2023 facilitates this, for example.

Exhibit 6 – Examples of firms in Margosa Technology Park

The table below provides an overview of a few of the firms in MTP. For each firm, the table records its country of origin, the technology on which it focuses, its stage in the relevant industry life cycle and its position on the diffusion of innovation curve.

Name	Country of origin	Technology	Industry life cycle stage	Position on diffusion of innovation curve
Alphaquant	Vilenia	Quantum	Embryonic	Innovators
Betagenome	Vilenia	Genomics	Growth	Early adopters
Claryta	Vilenia	Machine learning	Mature	Late majority
Delta	Vilenia	Generative AI	Growth	Early majority
Erobo	Vilenia	Robotics	Growth	Early majority
MargosaBio	Vilenia	Biotech	Growth	Early majority
GuntherBio	Austria	Biotech	Growth	Early majority
HiQuant	Croatia	Quantum	Embryonic	Innovators
FarrugiaBio	Malta	Synthetic biology	Growth	Late Majority