The digitalisation of small and medium-sized enterprises in Portugal

Models for financing digital projects

Summary Report

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and the European Investment Advisory Hub

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Summary Report

Key Messages

Findings

- **Small and medium-sized enterprises play a particularly important role in the non-financial business economy in Portugal** – the economy is dominated by SMEs with fewer than 10 employees, largely concentrated in traditional sectors.
- Recent **economic growth has helped improve SME activity and investment levels since the financial crisis.** Bank lending volumes have recovered in recent years and **access to finance for SMEs is improving and converging towards the EU average.**
- **Productivity remains a challenge** for Portuguese companies' competitiveness, particularly in traditional sectors – and one where digitalisation can have a key impact.
- **Overall, digital adoption in Portugal is slightly lower than the EU average** as measured by aggregate rankings. This is particularly the case **in the traditional sectors where companies' abilities to develop digital assets tend to be more limited.**
- **Public support to SMEs encompasses a number of public initiatives and financial instruments** at various stages of development and across sectors. This includes financial support (e.g. equity, debt, guarantees across various public agencies), tax incentives and HR qualification programmes.
- **Regarding the adoption of digital solutions, a number of knowledge gaps limit the ability of SMEs to integrate such assets.** Gaps include:
  - Awareness: Owners and managers often do not know how and where to apply digital solutions to business processes/channels;
  - Capabilities: Employees need technical know-how to integrate such digital solutions. They also need the skills necessary to approach larger-scale, transformational projects as well as to articulate robust technical implementation roadmaps and/or business plans.
- **In terms of funding, there is a well-developed supply of public instruments and mutual guarantee schemes**, and the overall small businesses' access to finance is improving and converging towards the EU average. However, **certain issues continue to limit the financing of digitalisation projects,** specifically in the case of:
  - SMEs that lack sufficient (physical/tangible) collateral, as can be the case for digital projects which may be of a more intangible nature;

  - Financing for more advanced, larger-scale, and riskier digital projects, which rely on the effective realisation of forward-looking business assumptions;
  - Availability of own funds can also be a constraint for these projects where bank funding is not available.
- **In addition, providers of digital solutions are fragmented** across digital/start-up SMEs, and competence/R&D centres associated to clusters and larger enterprises. This can be difficult to navigate by traditional SMEs looking for digitalisation.

Recommendations

- **Recommendation 1: The utilisation of existing digitalisation financing instruments should be improved**
  - Initiative 1a: Facilitate SME access to available instruments, e.g. by setting up an online portal, which could consolidate the entire available range of public-backed financial instruments and their appropriateness for a given SME's digital maturity and project stage, to help companies understand the offer available that best suits their needs;
  - Initiative 1b: Ease and simplify applications and align public financing instruments operationally; this may include common eligibility criteria or application processes;
  - Initiative 1c: Reduce information asymmetries in financing with a "digital score", which could signal the digital maturity of SMEs and their intended projects. Such a scoring methodology could be managed by a neutral, objective and reputed party, and could be used by the private sector to improve its risk assessments.
- **Recommendation 2: Debt financing for larger, transformative digital projects should be promoted**
  - Increased debt financing could be achieved with a new instrument to raise guarantee coverage, which would build on existing SPGM (Sistema Português de Garantia Mútua) guarantee schemes to increase risk-sharing between private and public investors and reduce collateral requirements;
  - More specifically, debt financing could be promoted through an EU-funded guarantee supporting commercial banks or the State's FCGM (Fundo de Contragarantia Mútuo, Mutual Counter-Guarantee Fund), to pass on additional coverage benefits to SME loans or enhance overall lending capacity; the upcoming European Investment Fund (EIF) pilot for a new dedicated digitalisation window under Fundo de Contragarantia Mútuo (Mutual Counter-guarantee Fund), COSME (EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises) is one example of such a mechanism.

- **Recommendation 3: The role of clusters and digital innovation hubs should be strengthened**
  - Initiative 3a. Define a clear role for clusters and digital innovation hubs as part of a national framework for the digitalisation of SMEs, which could be achieved by including industry clusters and innovation hubs in the implementation of the new phase of the I4.0 digitalisation strategy, and by giving them a role in key actions underway;
  - Initiative 3b. Define a structured approach for expansion. This could be the step-by-step mapping of needs across regions, designing and running a structured selection process and defining guidelines for the goals and target operating model to ensure newly established hubs start efficiently "from day 1".
- **Recommendation 4: Awareness of digitalisation should be increased**
  - Initiative 4a. Generate awareness of digitalisation through a digital (self-) assessment tool for SMEs, e.g. by providing guidance on first steps and serving as support for value-unlocking initiatives;
  - Initiative 4b. Address the issue of fragmentation in digital supply by setting up a centralised "yellow pages" repository for digital providers, which could take the form of a database of companies and their respective products;
  - Initiative 4c. Explore in more depth the issue of capabilities and skills required to facilitate digital transformation among SMEs, by conducting a dedicated study, potentially with an initial focus on specific traditional sectors where this issue may be seen as more important.

Background

The European Investment Advisory Hub (EIAH) has been engaged by COTEC Portugal to study the barriers that are preventing digitalisation of Portuguese SMEs, namely barriers to financing mechanisms, and to develop targeted solutions. This assignment is extended in support of COTEC's mandate from the Portuguese Ministry of Economy to address Innovation and Industry 4.0 issues. To implement the study, the EIAH engaged the EIB's Innovation Finance Advisory division and Oliver Wyman.

A three-step approach has been adopted:

1. The current status of business digitalisation in Portugal has been assessed, looking at (a) the demand for digital solutions from SMEs, particularly in traditional sectors; (b) the availability of suitable products to fit the needs of SMEs; and (c) public initiatives in place to facilitate access to digitalisation solutions by SMEs.

2. A cross-country analysis has been performed, identifying best practices on SME digitalisation worldwide (based on existing initiatives in Singapore, Finland, Denmark, France, Germany, Luxembourg and Spain).

3. Recommendations were devised, based on the analysis conducted, to address the digitalisation gap of SMEs in Portugal.

While the study primarily focused on financing models for the digitalisation of SMEs, the analysis and research conducted revealed that there are also key issues of awareness of digitalisation benefits, technical knowledge for digitalisation, and other factors that create barriers to digitalisation of SMEs in Portugal. These barriers also affect access to finance and the utilisation of the existing financing liquidity and instruments available. As such, the study took a holistic point of view in summarising its findings and recommendations, acknowledging that the financing of digitalisation of SMEs in Portugal is currently being affected by a broader set of factors than financing instruments.

Small-business digitalisation in Portugal

The Portuguese economy is dominated by **SMEs**[1]**, largely concentrated in low productivity sectors** (e.g. manufacturing, wholesale and retail trade) and representing 78% of the total workforce (vs an EU average of 67%); individually the majority of SMEs possess less than 10 employees. Historically, Portuguese companies have experienced lower levels of productivity (as measured by gross value added [GVA] per employee), lower levels of investment (namely in innovation), and higher levels of indebtedness than European peers. As in other markets, Portuguese SMEs largely depend on bank debt given their limited access to capital markets and limited alternatives (e.g. well-developed venture/angel investors, peer-to-peer lenders), as well as the historical preference of Portuguese SMEs for debt financing.

Portugal has emerged from a crisis period with severe credit contraction that particularly hit SMEs, where total lending volumes shrunk, NPL (non-performing loan) volumes peaked, and funding costs increased. This likely postponed a number of investment projects, including digitalisation. **While difficulties from the economic crisis persist** (e.g. some SMEs still restructuring and with high or non-performing debt), recent economic **growth has enabled these trends to reverse**. In the past two years, investment levels and overall bank lending to the economy have started to recover. However, these new trends have not yet translated into improvements in productivity, which is a historical challenge for Portuguese companies' competitiveness, particularly in traditional sectors – and one where digitalisation can have a significant impact.

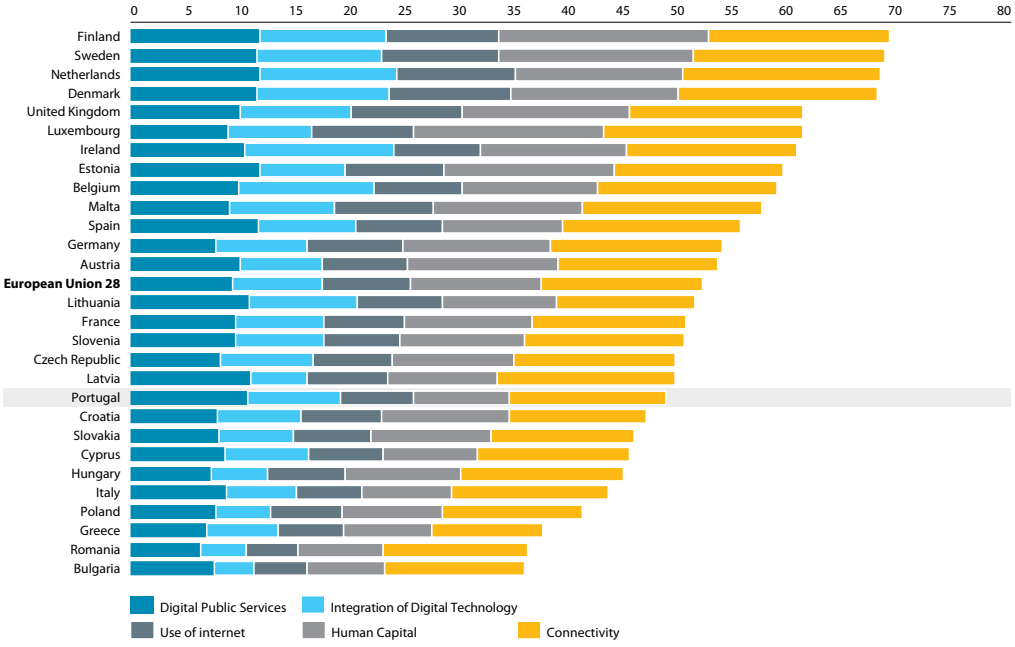
Effectively, **digitalisation and innovation are high on the Portuguese government's agenda**. This is fuelled by recent public actions and incentives, and economic growth. Numerous and diverse business associations and clusters play an important role in SME collaboration and integration, amongst others, to promote digitalisation (for instance, by disseminating best practices and use cases, promoting networking and the matching of buyers and sellers, offering training and advice). A small, but growing start-up ecosystem is also promoted via flagship events such as WebSummit, incubators and associations, and some venture capital finance (albeit with significant public support).

Despite this, the **overall level of digital adoption by the economy seems lower than the EU average** as measured by aggregate rankings such as Digital Economy and Society Index (DESI), internet adoption and COTEC's recent I4.0 scoreboard. Demand for digital solutions from traditional SMEs seems more focused on digital technologies which improve sales channels (e-commerce being a growing area in the country) and efficiency gains (in production and administrative processes). The appetite of small businesses for bigger innovation programmes or R&D investments that are transformative for business models or geared towards new products and new markets is still limited compared to larger firms. The recent EIBIS 2018 survey of SMEs also shows that the

1 Source EC 2017 SBA Factsheet Portugal. Note: it is acknowledged that data used in SBA (with source data Eurostat/INE as Portuguese statistical agency) shows differences to that collected and reported by the Bank of Portugal, given differences in the respective SME classifications in both sources. However, the former was used throughout this study for comparability with EU peers.

overall level of investment by Portuguese SMEs is still lower than EU counterparts[2]. Human resource qualification continues to be a significant challenge, as are asymmetries in accessing international markets.

Illustration 1: Digital Economy and Society Index (DESI) 2019 ranking



Source: European Commission (2019); OW analysis

Differences in accessing technology, talent, finance and international markets thus appear to be moving the digital economy in Portugal at three different speeds:

1. A growing high-tech, start-up ecosystem, operating in digital sectors with strong interconnectedness, qualified staff, access to international markets and finance via venture capitalists and business angels.

2. An intermediate SME layer, with companies operating in non-digital sectors but with access to international markets via exports and/or integration into foreign multinational companies' operations in Portugal that enable them to scale up.

2 Source EC 2017 SBA Factsheet Portugal. Note: it is acknowledged that data used in SBA (with source data Eurostat/INE as Portuguese statistical agency) shows differences to that collected and reported by the Bank of Portugal, given differences in the respective SME classifications in both sources. However, the former was used throughout this study for comparability with EU peers.

3. A long tail of micro companies in traditional, low productivity (or highly manual) sectors, with difficulties updating their business models, processes and qualifications, and with limited digital assets and scale.

On the **supply side**, providers of **digital solutions** are **fragmented across (digital/start-up) SMEs, competence/R&D centres associated with clusters, and larger enterprises**.

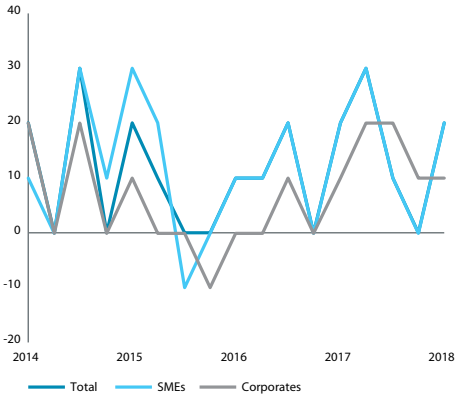
This terrain can be difficult to navigate for traditional SMEs looking for digitalisation, but also for providers focusing on specific needs and targeted solutions. This fragmentation is due to recent funding constraints from the economic crisis, but also gaps in awareness and knowledge of SMEs' specific needs. In addition, while the number of "digital age" start-ups has increased, these firms seem not fully aware/interested in supplying digital solutions to domestic SMEs in traditional sectors.

On the **funding side**, the **past 2-3 years have seen bank lending volumes resume and finance access converge towards the EU average** (see also the EIB's recent Europe-wide SME survey[3]). Competition for "good risks" is believed to be fierce amongst banks (i.e. for companies most attractive for financiers, with good financials and collateral). A significant share of SME lending by banks, estimated at 50–70%, is backed by a public (mutual) guarantee system, which has an important role in stimulating SME lending across a variety of guarantee lines with different policy objectives, including for innovation and digitalisation.

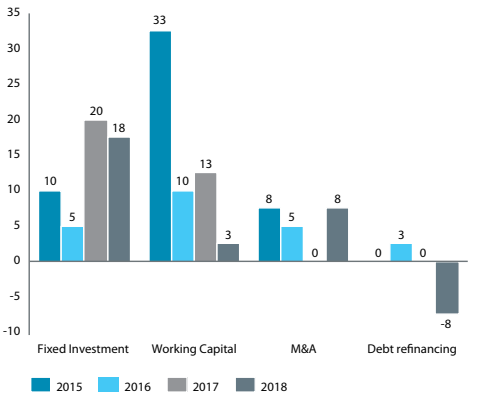
3 EIB Investment Survey 2018 – Portugal overview

Illustration 2: Recovering small business demand for loans and credit lines in Portugal[4]

How has the demand for loans or credit lines changed at your bank?
Diffusion index, representative of quarter-on-quarter change.
Positive: Increased. Negative: Decreased



How has the demand for loans or credit lines changed across different financing needs?
Diffusion Index, representative of quarter-on-quarter change, yearly average.
Positive: Increased. Negative: Decreased



Source: BdP Bank Lending Surveys; OW analysis

Despite this positive trend, the research suggests that the following barriers are still hindering further investment in digitalisation by Portuguese SMEs:

- **Knowledge gaps:** from both a business management perspective (e.g. owners and managers not knowing how and where to apply digital solutions to business processes/channels) and a talent/skills perspective (e.g. technical know-how of employees to integrate such digital solutions). Despite the positive role of clusters and other industry associations in disseminating best practices and developments on digitalisation, in absolute numbers there is still a significant portion of SMEs with a low awareness of the available solutions and their potential benefits, especially for smaller, family-owned SMEs in traditional sectors. **According to the Digital Intensity Index, almost 40% of Portuguese SMEs lack any digital technology**. There is also limited knowledge in terms of devising larger-scale, transformational projects and articulating these in robust technical implementation roadmaps and/or business plans (that also help in respect of access to finance). This is also reflected in SMEs' lower investment and e-business levels compared to EU peers. In addition, challenges in HR skills are seen as a key barrier to long-term investment. Portugal still has lower levels of tertiary education and ICT skills vs the European Union.

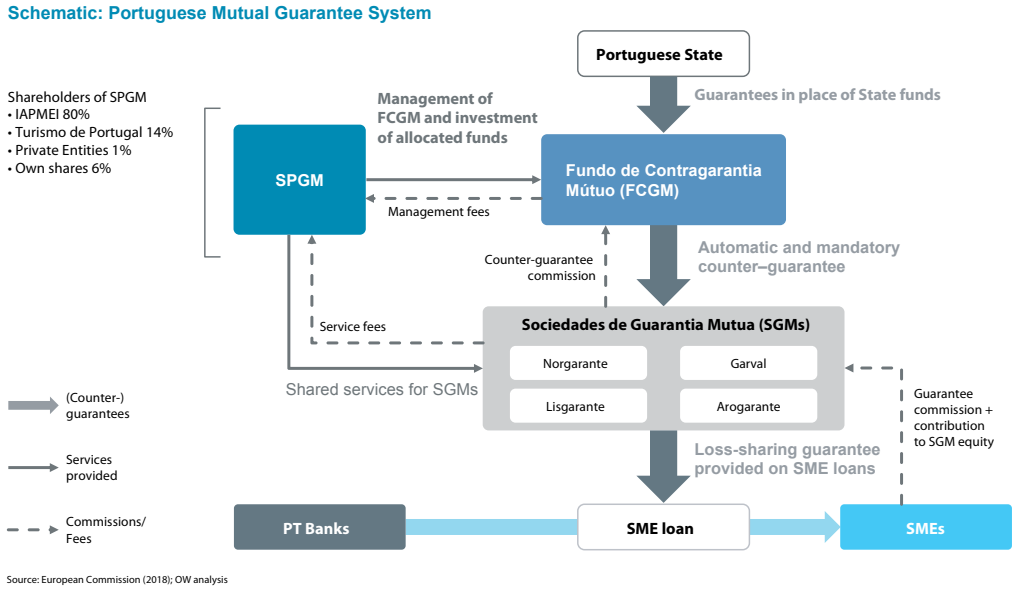
- **Financing gaps:** despite the liquidity available in the banking system and the convergence of access to finance towards the EU average, **the digitalisation policy objective is not yet being fully attained. This is the case in particular for SMEs that lack sufficient (physical) collateral, limiting financing for more advanced, larger-scale, and riskier technological projects**.

4 It should be noted that the BoP SME definition differs from that used in Eurostat data, which explains some differences in data used across sources. Eurostat is used as the primary source for the majority of report data for comparability with EU peers.

This reflects the difficulties encountered by banks in the technical appraisal of projects, as well as the perception of the higher risk of SME lending and digitalisation, in particular (namely, issues with signalling high-potential SMEs and defining adequate pricing). These difficulties continue despite the majority of bank lending being backed up by existing (mutual) guarantee schemes, which are not sufficiently favouring digitalisation so that the benefits are passed on to borrowers. In addition, for smaller, more traditional SMEs, the limited awareness of the benefits of digitalisation coupled with the fragmented and operationally complex landscape of public-backed financing discourages higher financing. In addition to such constraints on bank funding, we note that the availability of own funds to finance digitalisation investments is also a key consideration. While this study focuses primarily on exploring the gaps on the debt financing side, we acknowledge that funding gaps may also exist in terms of equity financing. The underlying reasons for limitations in equity finance for SMEs in Portugal are diverse, partially rooted in the traditional, family ownership of a major share of the SMEs and partially in the still nascent capital market in the country. It would be well beyond the reach of this present report to develop solutions to these issues. However, limited capitalisation is in many cases a key obstacle to innovation for companies, and the government is engaged in addressing the issues with the "Capitalizar" programme.

There are **several public government initiatives and financial instruments to support SMEs in Portugal**, at various stages of development and across sectors. This includes lending (e.g. equity, debt, guarantees across various public agencies), tax incentives (e.g. SIFIDE, Sistema de Incentivos Fiscais à I&D Empresarial) and HR qualification (e.g. training, IEFP programmes, Instituto do Emprego e Formação Profissional), IAPMEI advice (Agência para a Competitividade e Inovação). In particular, **in the past two years Portugal has launched a comprehensive strategy to promote innovation and digitalisation across the country with its *Indústria 4.0*** (60-point action plan over a four-year period). After an initial awareness-generating and mobilisation period, the strategy is now entering phase II for more tangible and transformative actions and is viewed positively and regarded as on track by market participants.

Illustration 3: Portuguese Mutual Guarantee System organisational chart and flows



Source: European Commission (2018); OW analysis

Despite their positive contribution, the landscape of public-backed programmes, initiatives and funding schemes in Portugal is often complex, difficult to navigate and burdensome to utilise. There are at least 33 live programmes, managed by 23 entities, that directly or indirectly address *Indústria 4.0* objectives. In addition, the four main public agencies channel funding support (debt, equity, guarantees) – SPGM, PME Investimentos, IFD and Portugal ventures – that can address innovation and digitalisation projects. This adds to the difficulty of deploying resources effectively to meet the digitalisation policy objective. In effect, our interviews suggested that **most digitalisation-specific public instruments are under-utilised, since digitalisation projects are financed using more generic, more flexible and/or more familiar existing instruments**. Recently, some criteria of specific digitalisation instruments have been reviewed and are expected to improve utilisation, but it is still too early to assess their real impact. In addition, SMEs are often discouraged from seeking finance for digitalisation once initial knowledge gaps are overcome given the difficulty in searching for the most suitable product and the challenges encountered using them.

The table in the next page summarises this assessment and the perceived relative size of gaps across different areas of digitalisation.

Table 1: Summary of barriers to SME digitalisation in Portugal

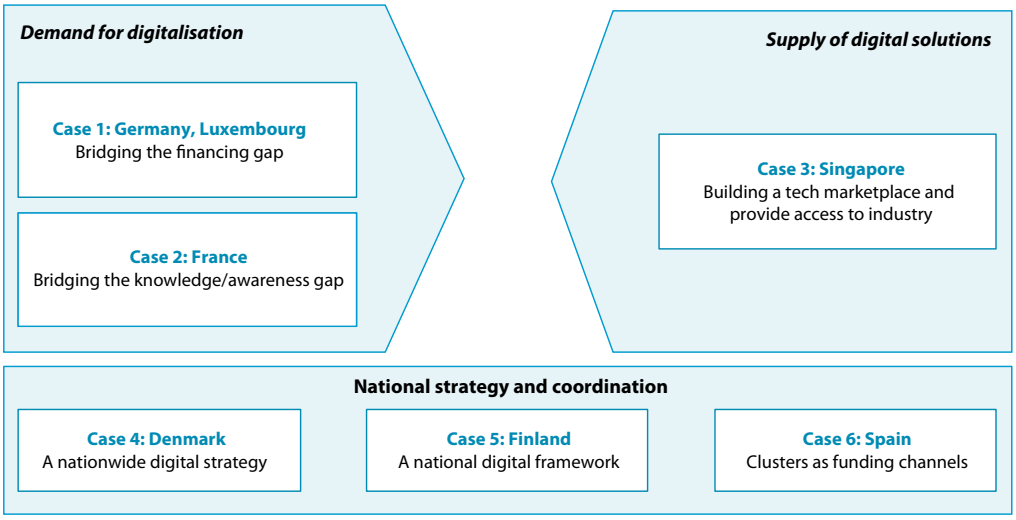
Area		Summary description	Perceived gap in PT
Demand for digitalisation	Awareness/ knowledge	• General underinvestment vs EU peers (e.g. 20% of SMEs have no investments planned) • General low awareness of digital solutions available and their benefits to drive demand; where existing, more for sales channels and efficiency vs transformation of business models • Lower financial literacy vs EU peers; low awareness of financing options (by SMEs, clusters, DIHs) • Difficulty in signalling the right digital maturity to relevant stakeholders (e.g. banks, market matchers)	
	Business needs/ products	• Overall level of digital adoption lower vs EU average (e.g. internet usage, mobile) though converging, particularly in e-commerce (nonetheless this is likely driven by a small number of large firms) • Unbalanced digitalisation across firms; almost 40% of Portugal's SMEs lack digital assets, and across sectors	
	Technical capabilities	• The largest barrier stated by managers and clusters overall is adequate technical capabilities to implement digitalisation solutions (e.g. 2.2% of employees are ICT specialists vs 3.7% across the European Union; tertiary education below EU average)	
Supply of digitalisation		• Supply is varied but fragmented across technologies, offerings and providers, as well as being asymmetric across sectors; difficult to navigate and often not tailored to SMEs' needs • High-tech start-ups and other tech SMEs with limited interest in supplying and/ or low understanding of the needs of (the large number of) traditional SMEs	
Market matching of digital solutions		• Difficult for a large number of SMEs to navigate the existing landscape of digital providers given market fragmentation • Clusters and associations most often doing so opportunistically and "on-demand", limiting the scale of SMEs reached; this also significantly differs across sectors • Digital innovation hubs are limited in number and still in the operationalisation phase • Limited cooperation across SMEs in integrating in value chains and/or joining up to tackle different markets/products (especially in more integrated sectors)	
Financing		• Bank financing resumed after crisis (deleveraging); however competition largely for so-called "good risks" • Availability of (physical) collateral is a key differentiating factor, limited long-term lending and still higher funding costs vs European Union – posing challenges to finance digitalisation for traditional SMEs lacking scale and for more advanced, transformational digitalisation projects • Existing public-backed instruments not fully addressing policy objectives and some under-utilised due to the perception by market participants of a complex landscape, given the high diversity of products, intervening agencies, and the operationally burdensome application processes	
National strategy and public support programmes		• Coordination/prioritisation difficulties across schemes and transparency of execution levels • National strategy in place, but not yet defining clear roles across stakeholders, including digital innovation hubs, clusters and associations	

○ Low gap ● High gap

Key lessons learnt from other jurisdictions

The study has identified the best practices supporting the adoption of digital solutions among small businesses. The selected cases look, through real life examples, at the different aspects at stake for the Portuguese context.

Figure 1: Case studies analysed from other jurisdictions



Source: Olivier Wyman

Demand side

Bridging the financing gap for traditional small businesses

The shortage of funding from the commercial banking sector is addressed in **Germany** and **Luxembourg** by specific financing products, mainly grant or debt-based, differentiated in their conditions based on the project stage (planning vs development vs implementation) and type (process vs product).

Bridging the knowledge gap for traditional small firms

In **France**, the digital knowledge gap faced by small businesses in traditional sectors has been addressed by Bpifrance, which provides education (digitalisation self-assessment and awareness) and coaching programmes specifically targeted towards small businesses and focused on digitalisation.

Supply side

Building a tech marketplace

Singapore heavily leverages high-tech companies as catalysts for increasing digitalisation in traditional sector companies, by supporting the creation of a strong pipeline of digital products tested, pre-approved and made available to SMEs and facilitating the matching of demand with appropriate solutions and the most suitable product available in the market. Moreover, Singapore provides traditional small firms with access to experts and consultants in order to improve their levels of digitalisation.

National strategy

Developing a national and well-coordinated national strategy

Denmark, with its Digital Growth strategy, is an example of a country with a comprehensive, long-term and country-wide digital plan, encompassing all the socio-economic dimensions (from education, to technology, to business and regulation).

Finland also has a comprehensive national digital strategy with its Finland Digital Framework, and has a variety of public institutions complementing each other in their effort to improve the digitalisation of SMEs.

Spain, as part of its 2020 national innovation strategy, has an official registry for innovative clusters that have exclusive access to certain subsidies aimed at innovative projects that boost their respective industries' competitiveness.

Recommendations

The assessment of the status of SME digitalisation and its financing in Portugal, in combination with best practices worldwide, has highlighted the potential for improvements in the existing landscape. This study has shortlisted improvements that could be considered in public-backed initiatives in four main areas, which is also in line with the analysis framework in section 1 (summarised in Table 1 on page 13).

Recommendations are detailed in section 3 of the report and summarised in the table below.

Table 2: Recommended initiatives summary table

Addressing the financing gap	
Recommendation 1: Improve utilisation of existing digitalisation financing instruments	
Initiative 1a. Set up an online portal for public-backed financing instruments	*Current state:* • Perception by SMEs and the private sector of a complex landscape of public-backed financial instruments, given the high diversity of products, intervening agencies, and operationally burdensome application processes *Overview of recommended initiative:* • Set up an easy-to-use online portal consolidating all available offers of public-backed financial instruments and their appropriateness for a given SME's digital maturity and project stage, to help SMEs understand the offer available that suits their needs • Could be supported by an online questionnaire (possibly building on, or the same as the self-assessment proposed below in initiative 4a) • Ideally, designed and managed centrally by a public agency to ensure accuracy of information
Initiative 1b. Operationally align public financing instruments to ease applications	*Current state:* • Perception by SMEs and the private sector of a complex landscape of public-backed financial instruments, given the high diversity of products, intervening agencies, and operationally burdensome application processes *Overview of recommended initiative:* • Operational alignment of public financing instruments (FIs) in a defined perimeter (e.g. grants and loans) to reduce complexity within the system; this can include factors such as defining common eligibility criteria for companies and projects (where possible), and having an easy-to-use common online application for FIs for the first steps of all applications • Aimed at increasing complementarity across existing financial instruments, avoiding overlaps and reducing the operational burden in application processes to incentivise utilisation
Initiative 1c. Reduce information asymmetries in financing with a "digital score"	*Current state:* • Public and private financiers have difficulties assessing the merits of digital projects and digital maturity (in particular where technical expertise is required for given sectors and/or specific technologies). This contributes to information asymmetries in assessment of risk across financiers and SMEs, which can introduce a negative bias against digitalisation *Overview of recommended initiative:* • Design and manage an independent, objective "digital score" that can reduce information asymmetries in financing by signalling digital maturity of SMEs and their intended projects. Ideally, this can translate into risk assessment vis-à-vis the expected impact on projects of different digital maturity, i.e. by making funding (or favourable funding conditions) contingent on an increase in digital maturity with the adoption of a project • To be effective, this needs to be done by a neutral, objective and reputed party, serving all willing market participants, and built from a variety of data sources (including self-assessment referred to in 4a below). • This could be used by the private sector to improve their risk assessments or by the public sector to improve decision-making regarding the granting of funding support (either on a case-by-case basis or to facilitate pre-approvals for simpler financing instruments) • One of the key benefits of this initiative is that it would help send pragmatic signals of digital maturity to financing providers for such scored SME and digital projects, which could facilitate decision-making in particular and lead to better credit outcomes for projects otherwise seen as risky due to their often intangible, transformational and forward-looking digital components

Addressing the financing gap	
Recommendation 2: Promote debt financing for larger, transformative digital projects	
Initiative 2a. New instrument to raise guarantee coverage	*Issue:* • At present, public-backed financing instruments, namely via the mutual guarantee system, do not sufficiently incentivise financing of transformative (higher-risk) digital projects or implementation of more complex digital solutions. (Physical) collateral is a key constraining factor *Overview of recommended initiative:* • Have new instrument or build on existing SPGM (Sistema Português de Garantia Mútua) guarantee schemes to increase risk-sharing between private and public investors for such types of project, reducing pressure on the availability of collateral • Subject to further due diligence, this objective could be achieved e.g. via an EU-funded guarantee supporting commercial banks or the FCGM (Fundo de Contragarantia Mútuo), to pass on additional coverage benefits to SME loans or enhance overall lending capacity (without reducing weight of due assessment of cash-flow generation of projects/companies seeking such support) • Specifically, as of the time of publication, we note that the EIF is preparing the launch of a pilot digitalisation window under the COSME guarantee facility; this pilot (described in more detail below) would provide additional (counter-)guarantee support to financial intermediaries for digitalisation projects, with simplified eligibility requirements to facilitate adoption • By increasing overall guarantee coverage beyond the current levels practised de facto in Portugal, the new digitalisation window under COSME could help reduce the importance of collateral for SMEs developing digitalisation projects and lead to more favourable credit outcomes overall • Subject to successful market adoption, this pilot could provide the basis for further measures in support of digitalisation in the next programming periods, which would benefit Portugal and other Member States where deployed
Addressing the knowledge gap	
Recommendation 3: Strengthen the role of clusters and digital innovation hubs	
Initiative 3a. Define a clear role for clusters and digital innovation hubs as part of a national framework for digitalisation of SMEs	*Current state:* • Practices, maturity and estimated impact of existing industry associations (sector clusters and other) in Portugal differ significantly across sectors. DIHs are still in the early stages of operating model definition. At the same time, government entities and initiatives do not seem to be leveraging on this network sufficiently to benefit, e.g. from dissemination of financing products, awareness of digitalisation benefits, building of local ecosystems *Overview of recommended initiative:* • Include industry clusters and digital innovation hubs in the implementation of the new phase of the *Indústria* 4.0 digitalisation strategy, by defining and giving them a role in key actions underway • To build momentum, start working with 2-3 selected clusters to learn and test collaborations. Also, in particular, define a clear goal and role for digital innovation hubs in Portugal, before additional expansion (these could include e.g. support in finding financing, technical advisory, training, matchmaking between SMEs and providers) • Among the key activities to be developed by innovation hubs, we highlight the potential impact that these entities can have in evaluating and signalling the quality of digitalisation projects to commercial banks; such a role could also be combined with potential scoring mechanisms as highlighted in initiative 1c

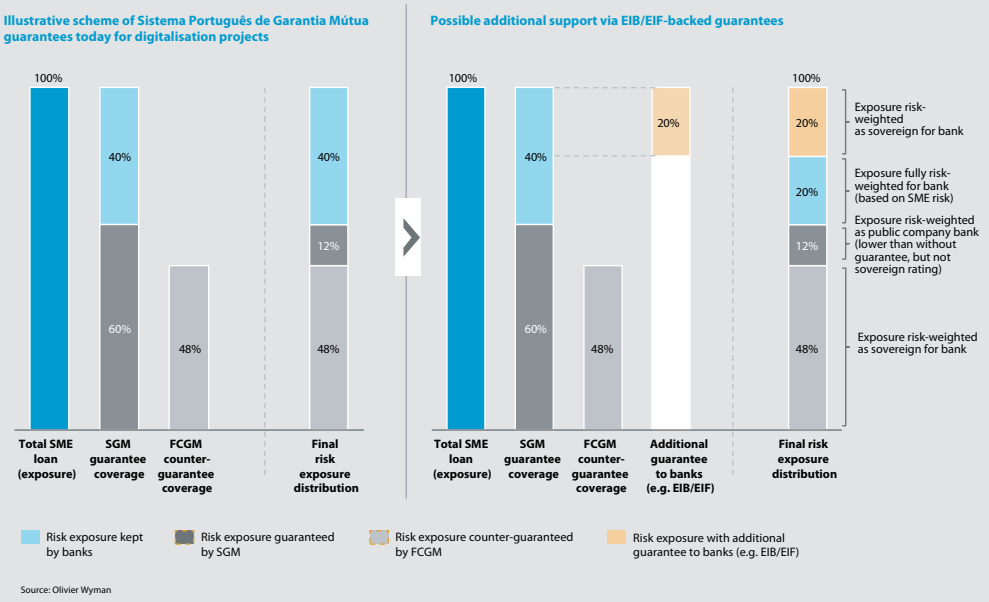
Initiative 3b. Take a structured approach to DIH expansion and set-up	*Current state:* • The European Commission plans to expand the digital innovation hub network (to approximately one hub per Nomenclature of Territorial Units for Statistics II region), and work is ongoing to define principles for the operating and funding model. Portugal aims to expand its hub network from the existing three digital innovation hubs to at least 10 *Overview of recommended initiative:* • Define a structured approach for expansion that is tailored to and beneficial for the local reality in Portugal, as part of the country's digitalisation strategy efforts (e.g. to be done under the implementation of Indústria 4.0) • For instance, this could be performed step-by-step by: – Mapping clear needs across local regions, to inform choices on expansion and any association applying for digital innovation hub status – Designing and running structured selection process for DIHs to analyse applications (e.g. by defining clear criteria and conducting interviews) – Defining guidelines for goals and target operating model of hubs to ensure that newly established hubs start efficiently "from Day 1" – Monitoring implementation and a regular follow-up process
Recommendation 4: Increase awareness regarding digitalisation	
Initiative 4a. Set-up a digital (self-) assessment tool for SMEs	*Current state:* • Low overall awareness from traditional SMEs regarding digitalisation, its benefits and their own maturity, causing inertia to even take "first steps" *Overview of recommended initiative:* • Build an interactive online questionnaire on digital maturity to generate awareness among small businesses (e.g. by providing maturity-based recommendations/guidance on first steps) and support value-unlocking initiatives (e.g. public vouchers granted contingent on self-assessment) • Ideally, designed and managed centrally, and distributed to all willing small businesses via clusters, digital innovation hubs and business associations
Initiative 4b. Set up a centralised "yellow pages" repository for digital providers	*Current state:* • Market fragmentation across providers of digital solutions, and differentiated across sectors, causing difficulties for SMEs that want to digitalise to learn about offerings and source suitable vendors *Overview of recommended initiative:* • Build a comprehensive database of tech companies and their business focus/product offering for SMEs, with standardised profiling of vendors and solutions in "scorecards" to improve transparency and market matching • Ideally, designed and managed centrally; could be distributed freely to business communities via an online portal, and support other initiatives e.g. pre-approval of vendors by suitable stakeholders (e.g. digital innovation hubs)
Initiative 4c. Conduct study on digital skills	*Current state:* • Technical capabilities to understand, source and implement digitalisation solutions are still a significant barrier to digital adoption across sectors *Overview of recommended initiative:* • Conduct a study on identifying the actual needs for digital skills in SMEs, mechanisms and public instruments being used by SMEs to address any skills gaps, and any possible improvement opportunities (either within existing public programmes or via any broader actions required) • To build momentum, this could be done first within 2-3 more traditional sectors (e.g. construction, hospitality, metalworking) to test impact • As one of the implementation challenges to be anticipated for potential measures in support of skills development or capability building, we note the difficulties traditionally faced in the implementation of training programmes supported by public resources, for instance to ensure the quality and adequate monitoring and validation of such training programmes • We also note that this challenge is recognised at EU level and that the EIF is launching a pilot initiative under EFSI in support of Skills and Education; this programme includes a guarantee window to support financing to companies investing in skills, which could benefit Portuguese SMEs seeking to upskill their staff for digitalisation initiatives. In addition to supporting enterprises, this pilot initiative will also support individuals attaining education/training in digital skills. • While outside the scope of the present analysis, the results of the Skills and Education pilot programme promoted by the EIF should be considered in any future study on digital skills in Portugal

Zooming in on Recommendation 2

Despite the broad product suite of financial instruments in Portugal, our interviews have consistently pointed towards the difficulty in financing higher-risk, transformative digital projects with highly technical solutions (e.g. internet of things, artificial intelligence, blockchain, smart factories) and/or the implementation of digital projects end-to-end. A key driver of this difficulty is insufficient collateral including under existing schemes (comprising guarantees), as explained in section 1 above. For highly innovative SMEs, there may be equity financing alternatives available, but some companies with reasonable maturity willing to undertake such projects are often disinclined to have their ownership diluted and are less interested in equity finance. This is the case both on the demand side (traditional SMEs in non-digital sectors) and on the supply side (SMEs in technology sectors looking to scale a business or provide an expanded digital solutions offering to other SMEs).

Debt financing for such projects could be promoted via a new instrument or by redesigning existing ones, albeit by ideally using the available liquidity in the system – for instance, via an EIB/EIF-sponsored guarantee on part of the exposure that is not currently backed by SGM guarantees. Such instruments may be complemented by Technical Advisory grant facilities to better prepare the investments and enhance bankability or better equip the commercial banks to assess the credit risk for fair pricing and collateral requirement. Illustrative terms and graphs are provided on the next page.

Figure 2: Digital small business guarantee – Illustrative workings[5]



Source: Olivier Wyman

Example of fit-for-purpose initiative: EIF pilot digitalisation window under COSME

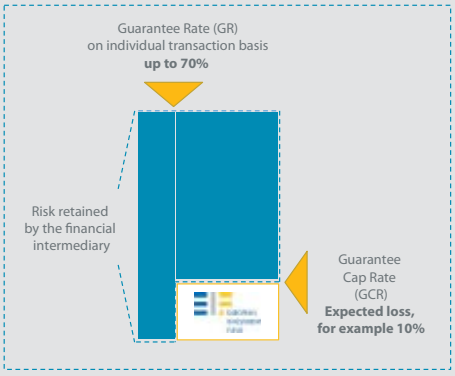
EIF digitalisation pilot under COSME	
Overview	• Free of charge capped (counter-) guarantee under COSME to be made available to financial intermediaries for risk coverage on financing provided to eligible SMEs for the purpose of digitalisation • Standard EIF-capped guarantee terms would apply, fully delegated model and quarterly reporting to the EIF • Pilot instrument to prove and consolidate the value of financial instruments in digitalisation in preparation for InvestEU/next Multiannual Financial Framework • Expected availability as of September/October 2019 • Aims to serve smaller SMEs by operating with a cap of EUR 150 000 per transaction
Simplified eligibility mechanism	• New simplified eligibility mechanism whereby digitalisation transactions would be eligible against the provision of a standardised signed declaration by the SME without any further checks required by the financial intermediary • Standard COSME eligibility criteria would still apply

Financial characteristics

- 70% guarantee coverage at transaction level instead of 50% under COSME
- Up to 20% overall guarantee cap rate at portfolio level
- Up to EUR 150 000 principal amount vs EUR 3m under COSME
- Maximum maturity of 10 years and 20% minimum exposure to the portfolio must be retained by the financial intermediary

(1) To be set at the level of the expected loss of the portfolio of debt financing to be guaranteed.
(2) For the avoidance of doubt, final recipient transactions might have longer maturities.

- Illustrative financing mechanism illustrated below (source: EIF)



Example

- A financial intermediary creates a portfolio of new eligible debt financing of EUR 10m
- Maximum amount payable under guarantee calls (Cap Amount) on a portfolio basis:
  - EUR 10m * 70% GR * 10% GCR = EUR 0.7m
- For a defaulted loan with an outstanding amount of EUR 10k, EIF would cover the loss at a 70% rate (EUR 7k) until the Cap Amount is reached
- Loss recoveries (e.g. late repayments) are shared between the financial intermediary and the EIF in the proportion of 30% : 70% (in accordance with the Guarantee Rate)

Expected benefits

- Additional (counter-)guarantee capacity which could result in incremental guarantee coverage or volume of financing for eligible digitalisation projects in Portugal
- Additional guarantee support could also reduce the collateral requirements generally observed in the Portuguese ecosystem and often cited as constraints for the financing of projects with high digitalisation components (which tend to involve a higher risk and be more intangible in nature and therefore present lower collateral support)

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Models for financing digital projects

Summary Report

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