



Space for Scale- ups

A spatial analysis of scale-ups in the Netherlands and their implications on spatial planning

Author: Peter Baarda
Date: June 2024

Space for Scale-ups

A spatial analysis of scale-ups in the Netherlands and their implications on spatial planning

By

Peter Baarda, 5062543



In partial fulfilment of the requirements for the degree of:

Master of Science

in Management in the Built Environment

at the Delft University of Technology,
June 2024

Supervisor: Karel Van den Berghe
Peter Pelzer

Contents

Abstract	4
1 Introduction	5
2 Theoretical background	7
2.1 Definition Scale-up	7
2.2 Spatial planning	11
2.3 EU and Dutch policy context	15
2.4 Research gaps and relevance	16
3 Methodology	18
3.1 Research method	18
3.2 Data Collection	19
3.3 Data analysis	20
3.4 Data plan	21
3.5 Ethical considerations	22
4 Research output	23
4.1 Goals and Objectives	23
4.2 Deliverables	23
4.3 Dissemination and Audiences	23
4.4 Personal study targets	23
5 Research plan	25
Bibliography	26

Abstract

Europe seeks to reinforce its economic resilience and strategic autonomy through innovation. Scale-ups, high-growth firms that have progressed beyond the start-up stage, play a pivotal role in driving innovation, creating jobs and spreading new technologies. Yet, little is known about the spatial conditions under which scale-ups flourish. As a result, Dutch spatial planning policies are often insufficiently aligned with their development dynamics. This thesis investigates how spatial planning in the Netherlands can better support the spatial needs of scale-ups. Using an explanatory mixed-methods design, the study combines a geospatial analysis of firm-level data with qualitative interviews to explore both the distribution and underlying spatial preferences of scale-ups. The first part identifies spatial patterns and typologies based on environmental and demographic indicators using GIS and statistical techniques. The second part uses semi-structured interviews with scale-up founders, planners and regional stakeholders to interpret these patterns and uncover planning rationales that influence location outcomes. The research contributes to closing a critical gap between spatial planning and innovation policy. By clarifying the spatial logic behind scale-up development, the study provides input for more responsive and future-oriented planning instruments. This contributes to regional competitiveness, the retention of innovative firms and the broader European goal of sustainable, innovation-led growth.

Keywords | Scale-ups, spatial planning, competitiveness, Netherlands, urban development

1 Introduction

In a time of geopolitical instability, the openness of the global economy has been in decline since 2008, raising concerns about 'strategic dependence' (Van Bergeijk, 2022). Letta (2024) argues that Europe must place greater emphasis on strengthening its own economic foundations or risk becoming irrelevant in the future. Similarly, Draghi's report (2024) cautions that the EU can no longer rely on open global trade systems or on an endless supply of cheap and abundant fossil fuels. Europe must take decisive action now, or it will lose its engines of growth. The response of the EU is highlighted in the Competitiveness Compass: "Europe must be the place where tomorrow's technologies, services and clean products are invented, manufactured and marketed, as we stay the course to climate neutrality" (European Commission, 2025b, p. 2). For the Netherlands to adhere to these statements they need to think ahead. The government already aims to allocate 3% of the gross domestic product (GDP) to research and development by 2030 (Rijksoverheid, 2024). Beljaarts (2025), Minister of Economic Affairs, submitted a letter to the Dutch House of Representatives (Tweede Kamer), announcing his intention to present a plan aimed at strengthening the ecosystem for start-ups and scale-ups. And on 28th of May the European commission announced plans to make Europe the start-up and scale-up powerhouse (European Commission, 2025a).

Innovation takes place in mostly scale ups (European Investment Bank, 2024; McKinsey & Company, 2022). Research shows that ambitious entrepreneurship drives stronger economic growth, young firms create more jobs, and high-growth firms help shift jobs to emerging industries (Stam & van de Ven, 2019). Scale ups are high-growth firms that move beyond the start-up phase, are seen as crucial engines of innovation, productivity and employment (Adriaansens, 2023). Scale-ups tend to be more innovative because they operate in dynamic stages of the business life cycle (Cséfalvay, 2024; Matejun & Mikoláš, 2017). They play a crucial role due to their strong capacity for job creation, their diffusion of new products and technologies and their importance for economic competitiveness (Felzensztein & Bagheri, 2024; Strengers et al., 2022). Supporting their growth requires appropriate spatial conditions.

Despite increasing recognition of the economic importance of scale-ups in Dutch policy, only 21% of Dutch startups successfully grow into scale-ups (Adriaansens, 2023). Several years ago, State Secretary Keijzer (2019) highlighted this issue, stating: "In this [a previous letter to the government], I indicated that the Netherlands has a relatively high number of start-ups, but relatively few grow into scale-ups and subsequently into large companies with societal and economic impact" (p. 3, translated). Academic research on the spatial dynamics of scale-ups remains limited, particularly the relation between economics and spatial planning. Significant knowledge gaps persist regarding the spatial typologies of scale-ups and their interactions with urban and regional environments. For instance, there is a lack of systematic insight into their preferred locations and the ways in which their expansion and clustering patterns influence urban development. This research therefore asks: "How can the Netherlands support scale-ups through the use of spatial planning?". The aim is to build a framework for aligning spatial policy with the growth dynamics of scale-ups. The study is grounded in the broader geopolitical and economic context, where Europe and the Netherlands must urgently strengthen their innovation-driven growth engines and focuses on practical planning measures that can enable scale-ups to thrive, to close the innovation gap.

By identifying current limitations and exploring typologies within the scale-up ecosystems, the study seeks to contribute to a more enabling environment for scale-ups. This is not only crucial for

maintaining the Netherlands' national attractiveness and regional development, but also for ensuring long-term European competitiveness, resilience and strategic autonomy.

2 Theoretical background

Europe must strengthen its innovation capacity to ensure long-term competitiveness and strategic autonomy (Draghi, 2024; Letta, 2024). Scale-ups, high-growth firms that move beyond the start-up phase, are seen as crucial engines of innovation, productivity and employment (Adriaansens, 2023). Their rapid expansion makes them vital actors in regional economic development, job creation and in building innovation ecosystems (Beljaarts, 2025).

Several terms are currently used to define a scale-up, often interchangeably with older start-ups, Small Medium Enterprises (SMEs) or gazelles, even though these comparisons are not entirely accurate (Coad et al., 2024; Coviello, 2019). For this research, it is essential to establish a clear and consistent working definition of a scale-up to guide the methodology. This literature section draws on academic and grey literature to formulate a working definition of scale-ups in the Netherlands.

2.1 Definition Scale-up

Scale-ups are commonly understood as firms in an intermediate phase of organisational development, characterised by rapid growth aimed at achieving economies of scale (Piaskowska et al., 2021). The OECD (2010) defines Scale-ups as firms with at least 10 employees and an average annual growth rate of over 20% in employment or turnover over three years. Smaller firms can also qualify if they add at least eight employees in the same period, this definition is also used by other academics (Crnogaj & Rus, 2023; El-Dardiry & Vogt, 2022). Jansen et al. (2023) classify scale-ups within the broader category of High-Growth Firms (HGFs), they state young firms up to 10 years old that have grown to 50 or more employees. However, both definition does not fully capture the complexity of what constitutes a scale-up.

Coviello (2019) stresses that scale-ups are not synonymous with HGFs, as growth is only one aspect. The distinction depends significantly on the organisational phase and strategic orientation. Coad et al. (2024) offer a more nuanced framework, identifying five key characteristics of scale-ups:

1. they exist across all sectors,
2. they invest heavily in marketing and sales,
3. they benefit from low marginal production costs,
4. they are young but not in the nascent start-up stage and
5. they adopt the HGF/OECD growth criteria as a baseline but go beyond them.

In another study, which excluded the research from Coad et al. (2024), Coviello et al. (2024) conduct a comprehensive literature review, distinguishing between scaling, scalability and scale-up. They conceptualise scale-up as an organisational phase rather than a pure function of growth, suggesting that not all scale-ups are defined solely by their expansion metrics. Duruflé et al. (2017) also define scale-ups less focused on growth and more focused on stage. They define them as ventures that have moved beyond the exploratory phase, established a viable product-market fit and are entering a phase of rapid growth and market expansion. Similarly, Hamilton and Ng (2025) argue that although scaling involves growth, not all growth equates to scaling. They define a scale-up as a phase in which a firm actively pursues returns to scale, transitioning from experimentation to standardisation, increasing capital intensity and shedding non-core assets. This metamorphosis marks a strategic shift beyond just rapid expansion. A key distinction lies in the scalability of the business model, scale-ups

achieve growth through economies of scale, meaning they increase revenue faster than costs by replicating processes efficiently (Monteiro, 2019). Monteiro (2019) highlights the limitations of using the OECD (2010) definition of HGFs to capture scale-ups, noting that while all scale-ups may meet HGF criteria, not all HGFs qualify as scale-ups.

In addition to academic literature, grey literature offers alternative perspectives on scale-ups. The national government often mentions scale-ups in the same breath as start-ups, referring to them as young, innovative (technology) companies. However, their definition is qualitative in nature: a scale-up is described as a rapidly growing company with a validated business model (Beljaarts, 2025). McKinsey & Company (2022) define scale-ups as entrepreneurial ventures that have achieved product–market fit and are experiencing exponential growth. This is the same focus on growth which is supported by other grey literature. They define the as organisations that grew in the most recent 3 years to at least 30 FTEs, to get a full company structure (ScaleUpNation, 2020). All these three have in common that the focus on growth.

The European Investment Bank (2024) adopts a valuation-based approach, categorising scale-ups as firms valued between \$500 million and \$10 billion. Based on their definition, only 16 to 23 such firms existed in the Netherlands between 2013 and 2023, highlighting both the rarity of scale-ups and the challenges of defining them spatially or quantitatively. However a valuation based approach would leave out scale-ups that would be important for the innovation in the Netherlands. In the context of venture-backed scale-ups, they are typically those that have progressed beyond Seed and Series A funding, entering Series B or later stages (Duruflé et al., 2017). This also directly links to one of the problems in Europe, which is the lack of funding for Scale-Ups from venture capital (VC) (Quas et al., 2022). However, it's important to note that VC is not always essential for a company to scale. Some businesses grow by reinvesting profits from a previously successful venture or by using that success as collateral to secure a new loan.

In addition to the qualitative and financial definitions, CBS (2023) adopts a more formal, data-driven approach. They made this database in combination with Erasmus Centre for Entrepreneurship. They define a scale-up as a firm that had at least 10 full-time equivalent (FTE) employees in year three, was founded before that year and achieved average annual employment growth of at least 20% over the subsequent three years, growth is defined by them as a ratio of 1.728.

The term scale-up is used inconsistently in the literature, often overlapping with related terms. Definitions of these terms are provided in Table 1. It is important to note that these definitions vary by region and often involve unclear or conflicting criteria. For this study, the definitions as in Table 1 are being used.

Table 1: Definitions similar terminology Scale-ups

	Definition	Source
High growth firm (HGF)	A firm has to have more than 10 employees and a yearly average growth rate of at least 20% over a three year period.	OECD (2010)
Gazelle	Gazelles form a subset of the group of high-growth enterprises; they are high-growth enterprises born five years or less before the end of the three-year observation period.	OECD (2012)
Start-up	An innovative small or medium-sized enterprise in the early stages of growth, aiming to develop and introduce new business models, products, or services to the market, with success still uncertain at the time of initial funding.	European Commission (2023)

Unicorns	A privately owned, tech or innovative company valued at over \$1 billion.	Definition of Aileen Lee by European Commission (2022)
Small and Medium Enterprises (SME)	A company with a staff headcount between 10 and 249 and either an annual turnover between €2 million and €50 million or a balance sheet total between €2 million and €43 million.	European Commission (2003)

2.1.1 Business lifecycle

In the previous subsection, it was noted that there is an ongoing debate about whether the focus should be on growth itself or on the specific phase in which a company finds itself (Coad et al., 2024; Coviello et al., 2024; Jansen et al., 2023; Piaskowska et al., 2021). This distinction is particularly relevant in the context of venture capital (VC), as funding decisions often depend on the company's stage in its development cycle.

The business life cycle, or product life cycle, has been described by Churchill and Lewis (1983) who distinguish four key phases through which a company typically progresses:

1. **Startup Stage** – Focus on developing a viable product and achieving market fit under high uncertainty with limited resources.
2. **Growth Stage (Scale-up Phase)** – *Rapid expansion following market validation, characterised by increasing revenues, team growth and increased spending on R&D (OECD/Eurostat, 2018). Key challenges include managing complexity and sustaining growth.*
3. **Maturity Stage** – Stabilisation with established processes and slower growth. Focus shifts to optimisation, customer retention and incremental innovation.
4. **Renewal or Decline Stage** – Firms must adapt to avoid stagnation or decline, through innovation or strategic repositioning, or risk market exit.

So Scale-ups occupy a distinct phase in the business lifecycle, situated between the uncertainty of early-stage start-ups and the stability of mature enterprises. The start-up phase is the initial stage in which the entrepreneur plays a pivotal role in defining the business model. This phase is characterised by high levels of uncertainty. A company only becomes a scale-up after it reaches a "trigger point" and a "turning point", entering a period of accelerated growth beyond the initial phase, including the challenging "valley of death" (Monteiro, 2019). With increased spending comes a greater need for funding. Start-ups are characterised by small, flexible teams, limited revenues and frequent strategic pivots. Bank lending, once the main funding source, is often inaccessible to smaller firms and startups that need more flexible options like risk capital (World Economic Forum, 2024). This risk capital often takes form in business angels or VC, they typically rely on seed funding or Series A funding. In contrast, scale-ups demonstrate greater structural stability and enjoy higher levels of customer confidence. They are further along in their development, generate more revenue and depend on Series B funding and beyond (Duruflé et al., 2017). As mentioned earlier this can also be other foreign money. The biggest challenges they face are more commonly related to production capacity and shortages in human capital (Hudáková et al., 2023).

When compared to mature firms, scale-ups differ in both priorities and challenges. Mature organisations generally focus on optimisation, efficiency and the protection of established market

positions (Piaskowska et al., 2021). Their strategic emphasis often centres on incremental innovation and risk mitigation. Scale-ups, by contrast, continue to pursue high growth trajectories and face the complexities of rapidly expanding operations, including the development of internal infrastructure and human capital. Often, when a scale-up reaches a certain size and transitions into a more mature company, its growth rate tends to slow down significantly and in some cases, even becomes negative (Erhardt, 2018). This suggests that when a scale-up begins to experience degrowth, it may no longer qualify as a scale-up. Instead, having surpassed a size of 50 employees, it may have simply matured into a different stage of organizational development.

2.1.2 Conclusion and working definition

For this research the following definition of Scale-ups will be used which is a combination of several sources.

“Scale-ups are companies at a specific stage of organisational development, characterised by rapid and growth after achieving a product-market fit. They have a validated business model and they are strongly focused on expansion, economies of scale and strategic scale-up. Scale-up it explicitly refers to an organisational and strategic transition phase.”

In the Table 2 below the different aspects are broken down in to their relative dimensions to make them applicable and transparent for the qualitative research.

Table 2: Indicators for Scale-ups that will be used in the data analysis

Dimension	Indicators	Sources
Quantitative	≥ 20% average annual growth in employment or turnover over a 3-year period ≥ 10 employees at start of period - Age: > 3 years and ≤ 12 years	(Coad et al., 2024; Coviello et al., 2024; OECD, 2010)
One of the following qualitative indicators		
Financial	- External funding received (Series A or B) - Attraction of risk capital - Have a valuation between \$500 million and \$10 billion	(Coviello et al., 2024; European Investment Bank, 2024; McKinsey & Company, 2022; World Economic Forum, 2024)
Innovation	- High innovation, significant R&D expenditure	(European Investment Bank, 2024; OECD/Eurostat, 2018)
Organisational	- Governance maturity including of management team - Being in a defined growth phase	(Coad et al., 2024; Coviello et al., 2024; Hamilton & Ng, 2025)
Efficiency	- Achieve growth through economies of scale, meaning they increase revenue faster than costs by replicating processes efficiently. Therefore product or service is scalable.	(Coad et al., 2024; Coviello et al., 2024; Monteiro, 2019)
Internationalisation	- Initiation of international transactions	(Hamilton & Ng, 2025; van Meeteren, 2014)

In academic literature, the terms start-up and scale-up are often used interchangeably, which contributes to conceptual ambiguity. The working definition of scale-ups adopted in this study aims to provide clarity. It is designed to be broadly acceptable and appropriate for the context of this research.

However, it should be noted that the definition may vary depending on the sector. Efforts have been made to keep it sufficiently general to ensure wide applicability.

2.2 Spatial planning

Dutch spatial planning has transitioned from a post-war model of strong national coordination with a fair distribution of functions (Blokhuis, 2010; Claassens et al., 2020) to a more decentralised and facilitative approach, influenced by neoliberal reforms since the 1990s (Alpkokin, 2012; Zonneveld, 2016). The dissolution of the Ministry of Housing, Spatial Planning and the Environment (VROM) in 2010 further weakened national oversight, increasing municipal responsibility.

Key policies of this planning history are things such as the ABC-location model attempted to steer business development towards public transport hubs. However, firms often opted for car-accessible sites, exposing a misalignment between planning intentions and market preferences (Poiani & Stead, 2018). The Fourth Policy Document (1988–1997) marked a strategic shift, focusing on strengthening the Randstad's international competitiveness rather than balanced national development (Zonneveld & Faludi, 1996). Each Randstad city was assigned a specific strategic role. Rotterdam would focus on transport and logistics hub, Amsterdam would be an international financial centre, The Hague was for national and international governance and Utrecht would act as national service and business centre (Nadin & Zonneveld, 2021)

Currently, spatial planning is framed by the National Strategy on Spatial Planning and the Environment (NOVI), which outlines priorities such as climate adaptation, sustainable growth and regional resilience (PBL, 2024). Despite this national framework, actual land-use and zoning decisions are made locally by municipalities, leading to fragmentation in planning approaches.

For scale-ups, fast-growing, innovation-driven firms, this presents a challenge. They require spatial flexibility, access to talent, infrastructure and ecosystems conducive to innovation (Florida et al., 2017; Stam & van de Ven, 2019). Existing planning instruments, though powerful are often reactive and short-term in nature (Buitelaar, Hurk, et al., 2025), making them ill-suited to the long-term, strategic needs of scale-ups.

2.2.1 Current spatial planning instruments in the Netherlands

With the formation of the Rutte VI cabinet in 2022, the Ministry of Housing and Spatial Planning (VRO) was re-established, signalling a renewed recognition of the need for national spatial coordination. The National Strategy on Spatial Planning and the Environment (NOVI) serves as the key policy framework, built around four national priorities:

1. Space for climate adaptation and the energy transition
2. Sustainable economic growth potential
3. Strong and healthy cities and regions
4. Future-proof development of rural areas

This framework highlights both the complexity of current spatial challenges and the emphasis on sustainable, non-destructive growth, particularly in the business and infrastructure sectors (PBL, 2024). However, spatial planning is no longer determined at the national level, but rather at the municipal level. For many years, the national government has pursued a policy of decentralisation and devolution, resulting in a reduced steering role for the Ministry of Spatial Planning and more focused on local governments and the provinces (van Straalen et al., 2015). Despite this, scale-up policy at the national level remains strongly influenced by the Ministry of Economic Affairs and Climate Policy (EZK)

and the Netherlands Enterprise Agency (RVO). At the national level, Dutch policy seeks to foster a strong entrepreneurial climate by enhancing access to capital, talent, knowledge, networks and markets through measures such as residence permits for startups, financing schemes, valorisation strategies and branding campaigns (Adriaansens, 2023). However, these efforts generally lack a spatial dimension. There is little integration between economic and spatial planning, leaving the physical needs of scale-ups, such as appropriate typologies and concrete location preferences largely unaddressed.

At the local level, zoning and land-use regulation remain the primary instruments guiding spatial development. These tools define where and how firms can locate, expand, or co-locate with housing or research institutions (Buitelaar, Lebbling, et al., 2025). Since the 1990s, Dutch planning has moved from active to facilitative land policy, prioritising short-term issues like housing shortages over long-term strategies (Buitelaar, Hurk, et al., 2025). In addition to zoning plans, environmental regulations could pose a barrier preventing scale-ups from expanding (KVK, n.d.). There for spatial requirements are often based on the possibilities within the current local regulations.

2.2.2 Location preferences scale-ups

In enabling scale-ups location should not be regarded merely as a control variable or simplistic proxy. Instead, it warrants deeper examination, as the cultural, social, political and economic structures and processes embedded in specific regions profoundly influence the formation, operation and evolution of entrepreneurial ecosystems (Stam & van de Ven, 2019). Scholars identify various factors shaping these businesses' spatial needs. Important to note is that the physical spatial requirements of scale-ups are hardly described in literature so to find these preferences the literature is focused on entrepreneurs and entrepreneurial environments and there characteristics. This research tries to add to this gap by examining the spatial typologies through data research. The table below outlines the key elements influencing the spatial requirements of scale-ups and entrepreneurs found in literature. This forms the basis for the later research and this will probably take form in a network visualisation.

Table 3: Physical elements of scale-ups

	Element	Description (measurable/observable)	Source(s)
Firm-level	<i>Floor area</i>	Total available indoor space in m ²	Mazzarol and Choo (2003)
	<i>Building flexibility</i>	Flexible, modular layout with potential for vertical or horizontal expansion to accommodate growth.	Personal hypothesis
	<i>Price per m²</i>	Cost per square meter in €/m ² /year	Personal hypothesis
	<i>Digital infrastructure</i>	Access to ≥100 Mbps fibre internet or 5G connection; percentage of households with access to internet	Florida et al. (2017); Leendertse et al. (2022)
	<i>Physical infrastructure</i>	Distance in km to nearest highway exit, public transport hub or airport/seaport	Audretsch et al. (2014); Porter (1990)
Regional-level	<i>Proximity to university / research institutions</i>	Presence of higher education, science parks or R&D;	Bergman and McMullen (2022); Boschma (2005); Cséfalvay (2024); Florida et al. (2017); Leendertse et al. (2022)
	<i>Urban density</i>	Urbanisation level or number of inhabitants per km ²	Balland et al. (2020); Cséfalvay (2024)

Regional-level	<i>Location hinder zones</i>	Whether site lies in or near environmental zoning restrictions	Van den Berghe (2023)
	<i>Founders' proximity</i>	Distance between business location and founders' or founders place of residence	Leendertse et al. (2025); Mazzarol and Choo (2003)
	<i>Talent availability</i>	Regional share of population aged 25–45 with tertiary education; unemployment rate under 6%	Deloitte (2024); Leendertse et al. (2022); McKinsey & Company (2022); Pinheiro et al. (2022)
	<i>Workforce availability</i>	Regional share of population skilled workers	Peirone et al. (2024)
	<i>Access to capital</i>	Availability of foreign capital (e.g. VCs, banks), is measured by VC volume per 1,000 firms (3-year average).	McKinsey & Company (2022); Stam and van de Ven (2019)
	<i>Clustering</i>	Number of scale-ups within a certain area or the presence of sectoral cluster or innovation hub	Brown and Mason (2017); Cséfalvay (2024)
	<i>Intermediary services</i>	The general availability of services such as legal, marketing, accountancy and consultancy services	Leendertse et al. (2022)

As scale-ups grow, their location preferences shift. In the early stages, access to talent, digital infrastructure and proximity to innovation ecosystems are key (Florida et al., 2017). An other important statement that they make is that cities act as containers for entrepreneurship and innovation (Balland et al., 2020; Florida et al., 2017). Clustering supports knowledge exchange and innovation, but research on this phenomenon often focuses on global or urban settings. Spatial planning that enables such clustering can strengthen regional innovation capacity, especially since demographic factors affect the complexity and feasibility of achieving this level of innovation (Pinheiro et al., 2022).

One of the key location factors for companies, particularly in the manufacturing and heavy industry sectors, is the presence of nuisance (or hindrance) zones. These zones make spatial integration challenging, especially in urban environments. This becomes even more problematic when a scale-up company aims to establish itself in a mixed-use area where residential functions are also present (Van den Berghe, 2023).

Cséfalvay (2024) in his paper, he identifies three key components of the European scale-up landscape. He highlights the size of cities, the location of the scale-up and the presence of knowledge and access to it, such as the availability of universities and research institutions.

At the national level, one success factor lies in what Porter (1990) refers to as factor conditions in his Diamond Framework. These include tangible elements such as infrastructure, especially those that involve high national investment, since basic resources are often globally accessible. This highlights infrastructure as a core component of a region's competitive advantage.

The location of an ecosystem is strongly interdependent with other elements. Knowledge-driven ecosystems are often found in metropolitan areas, whereas talent-driven ecosystems are more commonly located in peripheral regions. This highlights not only sectoral differences but also the interdependence between various ecosystem variables (Schrijvers et al., 2023).

2.2.3 Sectoral differences

The type of entrepreneurial ecosystem in a region has a strong influence on the kinds of businesses that emerge there. That is why it is important to take a sector-specific and regional approach

when assessing their impact and identifying ways to improve the ecosystem (Content et al., 2020). In this research, distinctions are made based on one of the following aspects: whether there is a need for specialised spaces, labs or production rooms or not. Or whether the focus is on hardware or software, Or in which sector the scale up is based on SBI codes.

To strengthen the Netherlands' position on the global stage, it is important to develop a clear specialisation. Health and fintech, for example, already attract significant global funding and the Netherlands has received relatively high levels of investment in these sectors, 13% and 25% respectively. Other promising sectors include energy and food, given the country's strong expertise and knowledge base in these areas (McKinsey & Company, 2022). This could also be one of the ways to differentiate between different scale-ups.

2.2.4 Agglomeration effects on Scale-Ups

In the early stages of growth, scale-ups benefit significantly from agglomeration effects—externalities arising from the geographic concentration of firms and institutions (Harris & Menzel, 2023). These effects often emerge through clustering and participation in innovation ecosystems and are widely recognised as key drivers of innovation and economic growth (Ooms et al., 2015). They facilitate place-based interactions and long-term relationships, contributing to regional innovation dynamics. A crucial advantage of agglomeration is improved access to talent; the concentration of firms and workers enhances the availability of both technically and commercially skilled labour (Peirone et al., 2024; Stam & Spiegel, 2016).

One of the main mechanisms behind agglomeration-driven innovation is knowledge spillovers, which frequently occur through unplanned, serendipitous interactions in densely populated areas. These spillovers are most effective at close range, as distance reduces the transfer of tacit knowledge and the intensity of interactions (Boschma, 2005; Rosenthal & Strange, 2020). In addition to human capital, financial capital is essential. Innovation-driven growth requires an accessible, visible and diverse network of venture capitalists, angel investors, seed funders and other financial actors (Stam & Spiegel, 2016).

Entrepreneurial ecosystems, defined as “a set of interdependent actors and factors that are governed so that they enable productive entrepreneurship within a particular territory” (Stam & Spiegel, 2016, p. 1), share spatial ties with agglomerations but include intangible elements such as knowledge exchange, collaboration and a culture of innovation. In contrast, business parks are characterised mainly by tangible infrastructure and spatial proximity.

However, proximity in all its dimensions can also negatively affect innovation. Excessive proximity may lead to lock-in, reducing openness and flexibility. Proximity theory suggests that both too little and too much proximity can be detrimental to innovation (Boschma, 2005). A balance of closeness and distance is necessary for optimal knowledge exchange.

Given that scale-ups remain highly dependent on agglomeration advantages during their early growth stages, it is expected that the data analysis will reveal the formation of clusters of scale-ups, or that scale-ups tend to locate within existing sector-specific clusters. In the Netherlands, this can be observed on a large scale in areas such as the Zuidas, which is home to a concentration of financial services and the Port of Rotterdam, a major hub for logistics and industry.

2.2.5 Why do scale-ups relocate?

As start-ups transition into scale-ups, they often reconsider their location. Motivations vary and can be grouped into three main types: local expansion, regional relocation, or internationalisation.

These decisions are partly shaped by national competitiveness factors, as outlined in Porter's Diamond Model (1990).

Within the Netherlands, start-ups frequently move from peripheral regions to urban centres, especially the Randstad. Cities outperform peripheral regions due to stronger ecosystems, access to talent, capital and networks, especially where universities and support structures are present (Pinheiro et al., 2022). This reflects the well-documented agglomeration advantages of urban areas, especially for start-up companies.

Some scale-ups opt for international relocation, primarily to access growth capital. Dutch start-ups often find that foreign investors, particularly in the US or Germany, are more willing and better resourced, easing the path to scaling (Deloitte, 2024). Research shows that around 6% of Dutch start-ups relocate abroad, with 85% moving to the US and this small group generates 17% of all start-up value created (Weik et al., 2024).

Internationalisation is not only driven by capital but also by sector-specific trends, global "buzz" and the perceived benefits of being part of international innovation circuits (van Meeteren, 2014). In this view, transnationalisation acts as an organisational innovation that enhances competitiveness and enables value creation and capture.

2.2.6 Conclusion and reflection

Dutch spatial planning has shifted from a centralised, policy-driven system to a more decentralised and facilitative approach, creating both opportunities and challenges for scale-ups. While national frameworks like NOVI set strategic priorities, actual spatial decisions are made locally, leading to fragmentation and misalignment with the dynamic needs of fast-growing firms. Scale-ups require investments in (digital) infrastructure, human capital and the right space to innovate.

Location choices are deeply embedded in broader ecosystems and vary by sector, growth stage and urban context. Agglomeration benefits such as knowledge spillovers and access to capital are vital in early growth, while nuisance zones and rigid zoning can become constraints as firms mature. This highlights the need for a more anticipatory, scale-up-sensitive spatial planning approach that balances national coordination with flexibility of local governments.

2.3 EU and Dutch policy context

The Letta Report (2024) highlights that the European Union's future influence depends heavily on the performance and scalability of its companies. It emphasises the need to foster innovation by focusing on scale-ups, stating that scaling EU companies within the Single Market is essential to maintaining and strengthening the EU's international position.

Similarly, the Draghi Report (2024) points out that although the EU produces a comparable number of start-ups to the United States, it falls behind in scaling them into large, competitive firms. To address this, the report recommends the creation of a new EU-wide legal framework to support scale-up growth and proposes expanding the budget of the European Investment Fund to provide more robust financial backing for scaling businesses.

The Competitiveness Compass takes these concerns into account, noting that the Draghi Report underscores innovation as one of the points that is central to Europe's economic competitiveness (European Commission, 2025b). It also stresses the need to eliminate structural barriers that hinder growth. Mariotti (2024) describes this shift as a move towards becoming "as open as possible, as autonomous as necessary".

Very recently, the European Commission officially adopted Draghi's recommendations. On 28 May 2025, a new strategy was published (European Commission, 2025a), positioning Europe as a "powerhouse for start-ups and scale-ups." This strategy includes several key measures: fostering innovation-friendly environments, improving financing options through a new Scale-up Europe Fund, supporting market uptake and international expansion and attracting and retaining top talent. Spatial planning is briefly mentioned in the need for adequate housing for talent and access to infrastructure. One of the things the European Union is going to do is the Charter of Access for Industrial Users. This will help SMEs access state-of-the-art facilities, networks and services.

Notably, the action plan accompanying the communication outlines that by 2026, the EU will formally define what constitutes a start-up, a scale-up and an innovative company (European Commission, 2025c). This research is therefore ahead of ongoing policy developments and could provide valuable support in shaping future strategies.

At the national level, scale-ups have long been a topic of discussion in the Dutch House of Representatives. State Secretary Keijzer (2019) previously highlighted that while the Netherlands has a strong foundation of start-ups, it faces challenges in successfully transitioning these into scale-ups and eventually larger firms. This transition is crucial, as scale-ups are a key driver of economic development. As Adriaansens (2023) noted in 'Startups en scale-ups als motor voor transitie en groei', successful scale-ups are the engine behind economic growth and play a vital role in maintaining a dynamic and competitive economy. However, the Dutch scale-up ecosystem lags behind some of its international peers. Beljaarts (2025) found that only 21.5% of Dutch start-ups evolve into scale-ups, compared to 40.6% in Germany, indicating a substantial growth gap.

What is particularly striking across all these policy documents is that, although they often hint at the spatial dimensions of scale-up policy, such as infrastructure access, none of them clearly articulate the spatial requirements of scale-ups. This represents a key knowledge gap that further research can help address.

2.4 Research gaps and relevance

Academic research on scale-ups has predominantly focused on their economic, organisational and financial dimensions, particularly their role in innovation ecosystems and their growth trajectories. However, the spatial dimension of scale-up, where they grow, why they cluster and what kind of spatial environments they require, remains significantly underexplored. While the literature has addressed spatial conditions for start-ups and mature firms, scale-ups occupy a transitional phase that is often overlooked. This gap is particularly striking given their increasing importance for national innovation and competitiveness.

Moreover, most spatial economic research either aggregates scale-ups with SMEs or treats them as HGFs without recognising the unique organisational dynamics of scaling. The lack of a spatial typology tailored to scale-ups limits both academic understanding and the potential for planning practice to respond effectively to their needs.

This thesis addresses this gap by combining spatial analysis with qualitative insight to construct typologies of scale-up environments and investigate the alignment between economic growth patterns and spatial planning realities. Rather than focusing on policy as a starting point, the study seeks to build theoretical insight into how spatial configurations enable or constrain scale-up development. By integrating insights from economic geography, planning theory and entrepreneurship studies, the research offers a novel framework for understanding scale-ups as spatial actors.

In addition to quantifiable location characteristics, scale-ups may experience latent spatial needs, those that emerge only during scaling or that remain unaddressed by current literature or planning instruments. These could include the need for flexible zoning or the ability to scale across municipal borders. These latent questions will be explored through interviews, making explicit what current spatial policy frameworks often overlook.

As one of the first empirical studies to approach scale-ups through a spatial lens using mixed methods with the main focus on data analysis, this thesis contributes to a more complete understanding of how innovation-driven firms evolve in space and how planning systems might better accommodate them.

3 Methodology

This research aims to answer the following question: “How can the Netherlands support scale-ups through the use of spatial planning?”. The Netherlands is good at facilitating large-scale industry and supporting incubators and start-ups (Keijzer, 2019), but less successful at retaining and scaling this innovation. The hypothesis of this thesis is that to enable the innovation that scale-ups can deliver, there needs to be a specific type of special planning for scale-ups in the Netherlands. To answer this research question the following sub questions are used:

- SQ 1. How are scale-ups and their spatial characteristics defined in academic and policy literature?
- SQ 2. What spatial characteristics define the current locations of scale-ups in the Netherlands?
- SQ 3. Which spatial typologies can be identified based on the environmental and contextual conditions of scale-ups?
- SQ 4. How do stakeholders perceive the spatial needs of scale-ups and the role of planning frameworks?

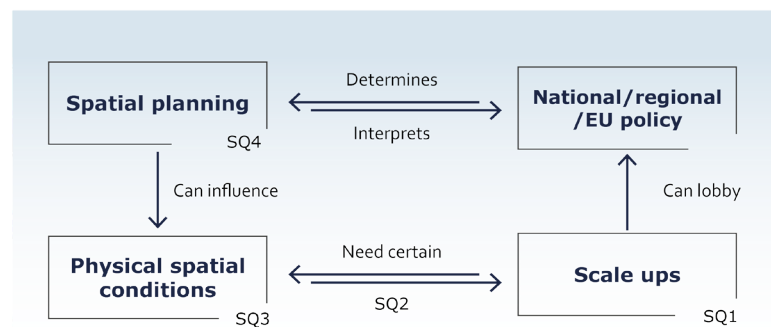


Figure 1: Conceptual model (own figure)

3.1 Research method

This research follows an explanatory mixed-methods approach to investigate how spatial planning in the Netherlands can better support the spatial needs of scale-ups. The research design consists of three integrated steps. First, a literature review was conducted to establish the theoretical foundation, including the definition and characteristics of scale-ups, their spatial requirements and the planning context in the Netherlands. Second, a quantitative spatial analysis is performed using firm-level data to explore the current spatial distribution of scale-ups and the characteristics of their surrounding environments. Third, qualitative research in the form of semi-structured interviews will be used to uncover the underlying spatial demands of scale-ups and to understand the planning rationale behind existing spatial developments.

The quantitative analysis aims to develop a typology of scale-up environments by identifying clusters or categories based on spatial variables such as urban density, proximity to knowledge institutions and access to infrastructure. Using RStudio, this analysis combines firm-level datasets with

environmental indicators to detect patterns and propose preliminary spatial classifications. However, these patterns alone cannot capture the underlying rationale of spatial decisions, nor the latent needs of scale-ups.

To complement this, qualitative interviews will be conducted with two distinct groups: professionals working with or within scale-ups and spatial planners or policymakers. The latter group will help to explain how and why current planning frameworks and decisions have shaped the observed spatial outcomes. Their insights will help determine whether the emergence of particular typologies was intentional, policy-driven, or coincidental. These interviews are also to uncover latent spatial needs, requirements and preferences that are not directly visible in datasets but are crucial to the spatial trajectories and planning frictions experienced by scale-ups.

Given the pioneering nature of this study, there is also a degree of methodological flexibility. Should the quantitative analysis prove inconclusive, for instance, if no strong typologies emerge due to a weak link between scale-up development and spatial planning, a targeted case study will be added to the research. This would allow for localised, in-depth exploration of scale-up dynamics in a specific spatial context, helping to uncover mechanisms that are not visible in national-level data.

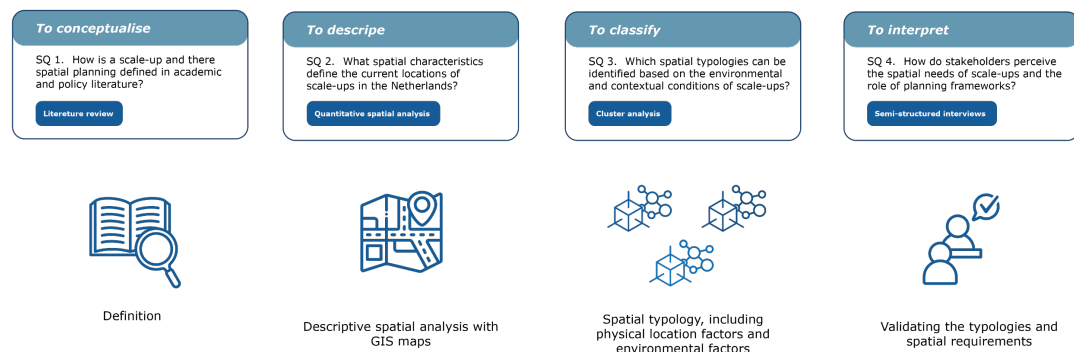


Figure 2: Research design thesis (own image)

3.2 Data Collection

The data collection strategy for this research is structured around two complementary components: a quantitative spatial analysis of scale-ups in the Netherlands and a qualitative exploration of underlying spatial needs and planning perspectives. This dual approach enables both a macro-level understanding of spatial patterns and a micro-level investigation into the motivations and planning logic behind them.

The quantitative component relies on the LISA dataset as the primary source for identifying scale-ups. Firms will be selected based on a predefined employment growth factor, specifically an average annual growth rate of at least 20% over a three-year period, in line with the working definition of scale-ups developed in the theoretical framework. Once identified, each firm will be enriched with additional data attributes through their coordinates or Chamber of Commerce (KvK) identifiers.

To further contextualise the location of scale-ups, relevant demographic indicators, additional publicly available data sources will be integrated. These include the Kadaster (for information on building size, year of construction and use function), CBS neighbourhood statistics (for demographic

indicators such as age distribution, education level and income, as well as the degree of urbanisation) and the Bedrijventerreinenregister (for classifying the type and policy status of business parks). These datasets will be spatially linked to each firm via coordinates or KvK identifiers, allowing for a detailed multi-scalar analysis of the scale-up environments. The dataset with scale-ups will be georeferenced and visualised using GIS. The spatial distribution of scale-ups will be analysed through spatial visualisation techniques and where appropriate, methods such as spatial autocorrelation or hotspot analysis will be applied to identify patterns of clustering or dispersion.

The qualitative component will take place in the form of semi-structured interviews. This method has been chosen to allow for in-depth exploration of individual perspectives while maintaining the flexibility to tailor questions to each stakeholder's background and expertise. Interviews are particularly suitable in this context, as they enable detailed reflection on the spatial needs of scale-ups and the institutional reasoning behind spatial planning decisions, insights that may not surface in a group setting.

The target groups include three types of stakeholders: scale-up founders or managers, spatial policymakers (national and local planning officials). These participants will provide insight into both the demand-side experiences of scale-ups and the institutional logic shaping spatial planning frameworks. The interviews will partly engage with preliminary findings from the quantitative analysis, allowing participants to reflect on the relevance and realism of the proposed spatial typologies. In parallel, the conversations will explore questions that cannot be answered through data alone, such as latent needs, frictions and expectations that shape locational decisions.

If the quantitative analysis proves inconclusive, for instance, if no clear typologies emerge due to a weak spatial clustering, a localised case study will be carried out as a supplementary method. This will allow for deeper, context-sensitive exploration of a specific location where scale-up activity is concentrated or contested, thereby adding analytical depth and practical relevance.

3.3 Data analysis

The analysis strategy consists of two parts, aligned with the mixed-methods design of this research: a quantitative spatial analysis and a qualitative thematic synthesis. These approaches complement one another by identifying spatial patterns on the one hand and explaining the underlying decision-making processes on the other.

The quantitative analysis will be conducted using RStudio and GIS. It begins with descriptive analysis to map the distribution of scale-ups and to examine environmental variables at both the firm and regional level. Variables such as building size, urban density, demographic characteristics and proximity to infrastructure or knowledge institutions will be statistically summarised and compared across different groups of scale-ups. This step will help identify preliminary typologies, for example based on differences in sector, geography, or urban context.

Depending on the structure of the data, clustering techniques (e.g. k-means or hierarchical clustering) may be applied to categorise scale-up environments into typologies. These typologies aim to reflect recurring spatial conditions that correspond with high-growth firm locations. To assess the extent to which scale-ups exhibit spatial clustering or dispersion, spatial autocorrelation methods such as Moran's I will be considered. In addition, hotspot analysis (e.g. Getis-Ord G_i^*) may be used to identify statistically significant concentrations of scale-up activity across the country.

The qualitative data will be analysed using thematic narrative summaries. After transcription and pseudonymisation, each interview will be reviewed to extract key insights and recurring themes. Rather than formal coding, the analysis will be structured around relevant categories such as location rationale, perceived spatial constraints, preferred environments and reactions to typologies identified

in the quantitative phase. Selected quotations will be used to illustrate and support the thematic observations.

A key analytical step in the qualitative component involves presenting visual outputs from the spatial analysis — such as maps or typologies — to interviewees. Their responses will provide insight into the perceived accuracy, relevance and limitations of the patterns observed in the data. This dialogue between quantitative results and lived experience will serve to explain why scale-ups are located where they are and which spatial factors truly matter from a user and planning perspective.

3.4 Data plan

This thesis follows TU Delft's data management standards and is accompanied by a Data Management Plan (DMP) based on the 2025 institutional template. The data strategy includes structured acquisition, secure storage, responsible handling of personal data and attention to reproducibility and long-term availability of outputs.

Data sources and access

The quantitative data collection relies on several datasets, including the LISA database (for identifying scale-ups based on employment growth), the CBS neighbourhood statistics (for demographic indicators and urbanisation levels), the Kadaster (for building-level information) and the Bedrijventerreinenregister (for classifying business park typologies). These datasets are either publicly available or accessible on request.

Data linkage and processing

Scale-ups will be linked to spatial and contextual indicators using geographic coordinates and KvK (Chamber of Commerce) identifiers. All data processing and analysis will be conducted in RStudio and GIS tools will be used for mapping and spatial analysis. The analysis may involve methods such as descriptive statistics, cluster analysis, spatial autocorrelation (e.g. Moran's I) and hotspot analysis (e.g. Getis-Ord Gi*), depending on the structure and quality of the data.

Privacy and data protection

Some of the datasets used in this study contain potentially sensitive company-level information, such as KvK numbers and addresses. To protect privacy and comply with GDPR principles, no personally identifiable or company-sensitive information will be published, stored long-term, or shared externally. Any output used for mapping or analysis will be anonymised and aggregated to appropriate spatial scales. For the qualitative component, semi-structured interviews will be conducted with stakeholders including scale-up founders, spatial planners and representatives from regional development agencies. Personal data — including names, organisations and roles — will only be collected with prior informed consent. Audio recordings will be stored on the TU Delft U-drive and deleted within two weeks after transcription and pseudonymisation. Only thematic summaries and selected quotations will be retained and stored securely on TU Delft OneDrive.

Reproducibility and archiving

R scripts and relevant processed data will be maintained throughout the project to support verification and reproducibility. Raw datasets will be stored separately to ensure data integrity and will be deleted upon project completion to safeguard privacy and comply with licensing agreements. The final thesis will be archived in the 4TU.ResearchData repository, in line with TU Delft guidelines. While raw data cannot be published, derived outputs, including typologies, visualisations and analytical

summaries, will be included in the thesis. Analytical scripts developed in RStudio will be added as an appendix or supplementary file to promote transparency and adherence to FAIR (Findable, Accessible, Interoperable, Reusable) principles.

3.5 Ethical considerations

This study complies with the ethical standards set by Delft University of Technology and the General Data Protection Regulation (GDPR). Ethical considerations primarily apply to the qualitative component of the research, which involves semi-structured interviews with scale-up founders, spatial planners and representatives from regional development organisations.

Before the start of the data collection, the research will be submitted for ethical approval by the Human Research Ethics Committee (HREC) of TU Delft, as required for any research involving human subjects. All participants will receive a written informed consent form that clearly outlines the aim of the study, the voluntary nature of participation, the right to withdraw at any point and the way in which the data will be handled and anonymised.

Only minimal personal data will be collected: the participant's name, job title and affiliated organisation. These are necessary for organising the interviews and preparing contextualised summaries. During transcription, these identifiers will be pseudonymised by replacing them with respondent codes. Audio recordings will be stored securely on the TU Delft U-drive and deleted within two weeks of transcription. Pseudonymised summaries and selected quotations will be stored on TU Delft OneDrive in a secure, access-controlled environment.

The research does not involve vulnerable groups, sensitive topics, or high-risk contexts and is not affiliated with any commercial or political interest. As such, the study is considered low risk. Ethical precautions, including informed consent, pseudonymisation and secure storage, will ensure participant privacy and research integrity throughout the project.

4 Research output

4.1 Goals and Objectives

The aim of this research is to identify and analyse spatial factors that influence the development and location decisions of scale-ups in the Netherlands. By quantifying these spatial elements and integrating them into a geospatial analysis, the study seeks to generate insights that can inform national innovation policy and be operationalised at the regional level through spatial planning instruments, particularly Omgevingsplannen (Environmental Plans).

The objectives are also very dependent on what the outcome of the first phase of the research is but as discussed in the previous section there is a plan. The main objectives are:

1. To **identify** and **define** spatial indicators relevant to the growth and spatial distribution of scale-ups (e.g., proximity to knowledge institutions, accessibility, urban density and type of built environment).
2. To **find** spatial distribution patterns and clustering behaviour of scale-ups within the Dutch context.
3. To **identify** the scale-up ecosystems and **predict** their development in the Dutch context
4. To **validate** the found definition and **develop** policy recommendations based on the empirical findings, supporting data-driven strategies at both national and regional levels and contributing to evidence-based spatial planning.

4.2 Deliverables

The final deliverable will be a P5 report in February 2026. However, key components of this report will include a working definition of scale ups. A spatial analysis of scale-ups in the Netherlands and a visual representation of the different observed typologies based on GIS data and literature. Next to that a deliverable will be a scenario analysis based on global developments that are of influence on scale-ups and a spatial planning strategy on how to include scale-ups in spatial planning.

4.3 Dissemination and Audiences

The target audience for this research includes academics, researchers in spatial planning, urban developers and policymakers. These groups will benefit from understanding the underlying rationale behind urban developments and how global trends influence the Dutch market.

The research will be disseminated through a P5 report, which will be publicly accessible and during the second phase and the interviews, first findings will be shared with participants from the relevant fields. Depending on whether I undertake a graduation internship, a final presentation will be given to showcase the key findings.

4.4 Personal study targets

My personal goal is to bridge the gap between the global and regional levels, gaining a deeper understanding of how different spatial scales influence decision-making in area development.

I also aspire for my research to contribute to a new way of thinking about area development, one that makes a bridge between economy and spatial planning. Where a specific focus lies on the broader context which isn't defined by national boards per se.

5 Research plan

This section outlines the timeline for the execution of the thesis research, structured according to the two-phase mixed-methods methodology. The plan includes fixed deadlines for P3, P4 and P5 and allows for flexibility depending on the direction chosen in Phase 2. The research runs full-time from the end of August until mid-January.

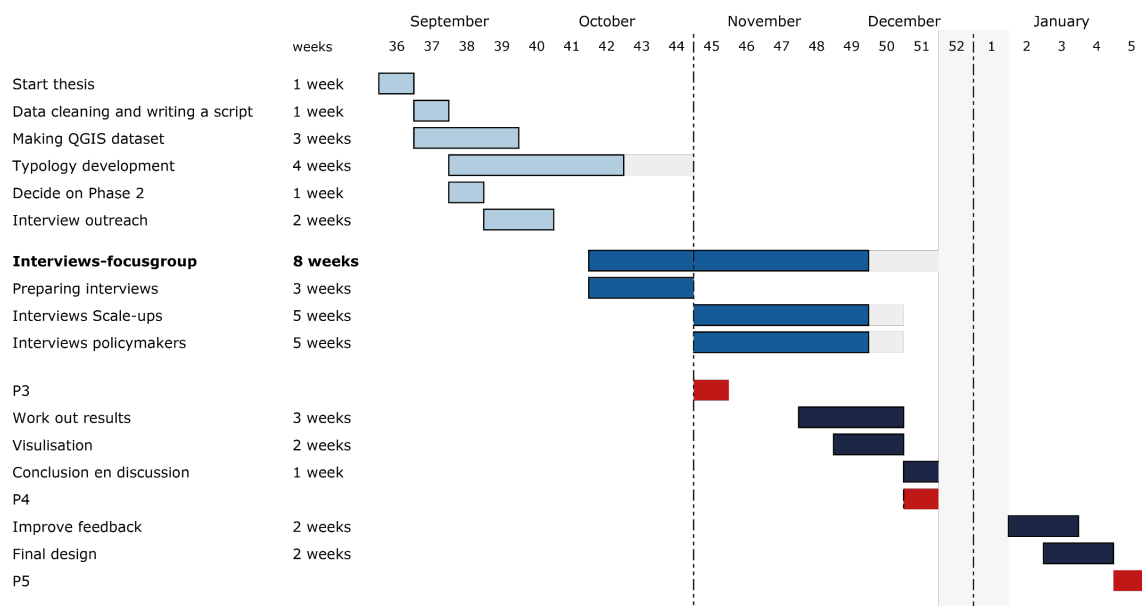


Figure 3: Research plan with weekly plans (own image)

The first stage (weeks 36–42) focuses on identifying and analysing the spatial distribution of scale-ups using firm-level data, demographic indicators and GIS techniques. This includes the development of spatial typologies that inform the second stage.

From week 42 onwards, 9 to 12 semi-structured interviews will be conducted with scale-up founders, planners and regional stakeholders. These will test the relevance of the typologies and provide insight into spatial needs and planning dynamics. Drafting of the thesis will begin in parallel (from week 48) to ensure timely synthesis of findings.

By the P3 milestone in week 45, the theoretical framework, data analysis and methodological direction will be complete. The final report will be delivered in February 2026. A Gantt chart outlining the full timeline and dependencies is shown in Figure 3.

Bibliography

- Adriaansens, M. A. M. (2023). *Startups en scale-ups als motor voor transitie en groei*.
- Alpkokin, P. (2012). Historical and critical review of spatial and transport planning in the Netherlands. *Land Use Policy*, 29(3), 536-547. <https://doi.org/10.1016/j.landusepol.2011.09.007>
- Audretsch, D. B., Heger, D., & Veith, T. (2014). Infrastructure and entrepreneurship. *Small Business Economics*, 44(2), 219-230. <https://doi.org/10.1007/s11187-014-9600-6>
- Balland, P. A., Jara-Figueroa, C., Petralia, S. G., Steijn, M. P. A., Rigby, D. L., & Hidalgo, C. A. (2020). Complex economic activities concentrate in large cities. *Nat Hum Behav*, 4(3), 248-254. <https://doi.org/10.1038/s41562-019-0803-3>
- Beljaarts, D. (2025). *Het Nederlandse startup en scale-up ecosysteem in internationaal perspectief*.
- Bergman, B. J., & McMullen, J. S. (2022). Helping Entrepreneurs Help Themselves: A Review and Relational Research Agenda on Entrepreneurial Support Organizations. *Entrepreneurship Theory and Practice*, 46(3), 688-728. <https://doi.org/10.1177/10422587211028736>
- Blokhuis, E. G. J. (2010). Governing multi-actor decision processes in Dutch industrial area redevelopment. *Technische Universiteit Eindhoven*. <https://doi.org/https://doi.org/10.6100/IR675517>
- Boschma, R. (2005). Proximity and Innovation: A Critical Assessment. *Regional Studies*, 39(1), 61-74. <https://doi.org/10.1080/0034340052000320887>
- Brown, R., & Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*, 49(1), 11-30. <https://doi.org/10.1007/s11187-017-9865-7>
- Buitelaar, E., Hurk, M. v. d., Lebbing, J., Pelzer, P., & Karnenbeek, L. v. (2025). *Land Policy in the Netherlands: An Ambiguous Utopia on the Move*. Springer Nature Switzerland. <https://doi.org/https://doi.org/10.1007/978-3-031-83725-8>
- Buitelaar, E., Lebbing, J., Pelzer, P., van den Hurk, M., & van Karnenbeek, L. (2025). Regulate or Be Regulated: The Institutional Entrepreneurship of Developers. *Planning Theory & Practice*, 25(5), 677-696. <https://doi.org/10.1080/14649357.2025.2456865>
- CBS. (2023). *Scale-ups in Nederland, 2010-2021* (
- Churchill, N. C., & Lewis, V. L. (1983). *The Five Stages of Small-Business Growth*. Retrieved 13-5 from <https://hbr.org/1983/05/the-five-stages-of-small-business-growth>
- Claassens, J., Koomen, E., & Rouwendal, J. (2020). Urban density and spatial planning: The unforeseen impacts of Dutch devolution. *PLoS One*, 15(10), e0240738. <https://doi.org/10.1371/journal.pone.0240738>
- Coad, A., Bornhäll, A., Daunfeldt, S.-O., & McKelvie, A. (2024). Scale-ups and High-Growth Firms: Theory, Definitions, and Measurement. <https://doi.org/https://doi.org/10.1007/978-981-97-1379-0>
- Content, J., Bosma, N., Jordaan, J., & Sanders, M. (2020). Entrepreneurial ecosystems, entrepreneurial activity and economic growth: new evidence from European regions. *Regional Studies*, 54(8), 1007-1019. <https://doi.org/10.1080/00343404.2019.1680827>
- Coviello, N. (2019). *Is a highgrowth firm the same as a 'scale-up'?*
- Coviello, N., Autio, E., Nambisan, S., Patzelt, H., & Thomas, L. D. W. (2024). Organizational scaling, scalability, and scale-up: Definitional harmonization and a research agenda. *Journal of Business Venturing*, 39(5). <https://doi.org/10.1016/j.jbusvent.2024.106419>
- Crnogaj, K., & Rus, M. (2023). From Start to Scale: Navigating Innovation, Entrepreneurial Ecosystem, and Strategic Evolution. *Administrative Sciences*, 13(12). <https://doi.org/10.3390/admsci13120254>
- Cséfalvay, Z. (2024). Europe's Scaleup Geography and the Role of Access to Talent. In *Knowledge and Digital Technology* (pp. 107-130). https://doi.org/10.1007/978-3-031-39101-9_6
- Deloitte. (2024). *Scale-ups confidence Survey*.
- Draghi, M. (2024). *The future of European competitiveness: Part A | A competitiveness strategy for Europe*.
- Durufélé, G., Hellmann, T. F., & Wilson, K. E. (2017). From start-up to scale-up: examining public policies for the financing of highgrowth ventures. (4). <https://doi.org/https://doi.org/10.1093/oso/9780198815815.003.0011>

- El-Dardiry, R., & Vogt, B. (2022). How far do Gazelles run? - growth patterns of regular firms, high growth firms and startups. *Applied Economics*, 55(37), 4304-4318. <https://doi.org/10.1080/00036846.2022.2128184>
- Erhardt, E. C. (2018). Firm performance after high growth: A comparison of absolute and relative growth measures. *MPRA Paper*, 88077. <https://orcid.org/0000-0003-4987-6807>
- European Commission. (2003). *SME definition*. Retrieved 14-5 from https://single-market-economy.ec.europa.eu/smes/sme-fundamentals/sme-definition_en
- European Commission. (2022). *In search of EU unicorns - What do we know about them?*
- European Commission. (2023). *Feasibility Study European Startup Scoreboard*.
- European Commission. (2025a, 28 May 2025). *Commission launches ambitious Strategy to make Europe a startup and scaleup powerhouse*
- European Commission. (2025b). *A Competitiveness Compass for the EU*.
- European Commission. (2025c). *The EU Startup and Scaleup Strategy, Choose Europe to start and scale*. Brussels
- European Investment Bank. (2024). *The scale-up gap: Financial market constraints holding back innovative firms in the European Union*.
- Felzensztein, C., & Bagheri, A. (2024). Start-ups' scaling-up strategies at the regional periphery. *International Journal of Entrepreneurial Behavior & Research*, 30(10), 2411-2442. <https://doi.org/10.1108/ijeb-05-2023-0507>
- Florida, R., Adler, P., & Mellander, C. (2017). The city as innovation machine. *Regional Studies*, 51(1), 86-96. <https://doi.org/10.1080/00343404.2016.1255324>
- Hamilton, R. T., & Ng, P. Y. (2025). What we know about high-growth firms, and what we do not: A systematic review. *International Small Business Journal: Researching Entrepreneurship*. <https://doi.org/10.1177/02662426251316441>
- Harris, J. L., & Menzel, M.-P. (2023). Entrepreneurial ecosystems and clusters: How can economic geographers advance debates for regional development? *Progress in Human Geography*, 47(6), 813-832. <https://doi.org/10.1177/03091325231205091>
- Hudáková, I. M., Slávik, Š., & Mišún, J. (2023). *Scaleups – Innovative Growth Businesses* KNOWCON 2023, Olomouc.
- Jansen, J. J. P., Heavey, C., Mom, T. J. M., Simsek, Z., & Zahra, S. A. (2023). Scaling-up: Building, Leading and Sustaining Rapid Growth Over Time. *Journal of Management Studies*, 60(3), 581-604. <https://doi.org/10.1111/joms.12910>
- Keijzer, M. C. G. (2019). *Brief van de Staatssecretaris van Economische Zaken en Klimaat*.
- KVK. (n.d.). *Environmental regulations and your business*. Retrieved 29-05 from <https://ondernemersplein.overheid.nl/duurzaam-ondernemen/milieu/uw-bedrijf-en-het-milieu/>
- Leendertse, J., Baggen, Y., Mahdad, M., & Dolmans, S. (2025). Logics at play: How logics shape interactions across entrepreneurial ecosystems. *Small Business Economics*. <https://doi.org/10.1007/s11187-025-01015-4>
- Leendertse, J., Schrijvers, M., & Stam, E. (2022). Measure Twice, Cut Once: Entrepreneurial Ecosystem Metrics. *Research Policy*, 51(9). <https://doi.org/10.1016/j.respol.2021.104336>
- Letta, E. (2024). *Much more than a market*.
- Mariotti, S. (2024). "Open strategic autonomy" as an industrial policy compass for the EU competitiveness and growth: The good, the bad, or the ugly? *Journal of Industrial and Business Economics*, 52(1), 1-26. <https://doi.org/10.1007/s40812-024-00327-y>
- Matejun, M., & Mikoláš, Z. (2017). Small business life cycle: statics and dynamics (S&D) model. *Engineering Management in Production and Services*, 9(4), 48-58. <https://doi.org/10.1515/emj-2017-0030>
- Mazzarol, T., & Choo, S. (2003). A study of the factors influencing the operating location decisions of small firms. *Property Management*, 21(2), 190-208. <https://doi.org/10.1108/02637470310478918>
- McKinsey & Company. (2022). *Building a world-class Dutch start-up ecosystem*.
- Monteiro, G. F. A. (2019). High-growth firms and scale-ups: a review and research agenda. *RAUSP Management Journal*, 54(1), 96-111. <https://doi.org/10.1108/rausp-03-2018-0004>
- Nadin, V., & Zonneveld, W. (2021). Introducing the Randstad. In *The Randstad* (pp. 3-25). <https://doi.org/10.4324/9780203383346-2>
- OECD. (2010). *High-Growth Enterprises: What Governments Can Do to Make a Difference* (OECD Publishing, Ed.). <https://doi.org/http://dx.doi.org/10.1787/9789264048782-en>

- OECD. (2012). *Entrepreneurship at a Glance 2012*. OECD Publishing.
- OECD/Eurostat. (2018). *Oslo Manual 2018, Guidelines for Collecting, Reporting and Using Data on Innovation*. OECD Publishing. <https://doi.org/10.1787/9789264304604-en>
- Ooms, W., Werker, C., Caniëls, M. C. J., & Bosch, H. v. d. (2015). Research orientation and agglomeration: Can every region become a Silicon Valley? *Technovation*, 45-46, 78-92. <https://doi.org/10.1016/j.technovation.2015.08.001>
- PBL. (2024). *Monitor Nationale Omgevingsvisie 2024. Tweede vervolgmeting*.
- Peirone, D., Pereira, D. B., Leitão, J., & Nezghoda, O. (2024). The Role of the Agglomeration Economy and Innovation Ecosystem in the Process of Competency Development and Growth of Small and Medium-Sized Enterprises. *Administrative Sciences*, 14(9). <https://doi.org/10.3390/admsci14090222>
- Piaskowska, D., Tippmann, E., & Monaghan, S. (2021). Scale-up modes: Profiling activity configurations in scaling strategies. *Long Range Planning*, 54(6). <https://doi.org/10.1016/j.lrp.2021.102101>
- Pinheiro, F. L., Balland, P.-A., Boschma, R., & Hartmann, D. (2022). The dark side of the geography of innovation: relatedness, complexity and regional inequality in Europe. *Regional Studies*, 59(1). <https://doi.org/10.1080/00343404.2022.2106362>
- Pojani, D., & Stead, D. (2018). Past, Present and Future of Transit-Oriented Development in Three European Capital City-Regions. In *Preparing for the New Era of Transport Policies: Learning from Experience* (pp. 93-118). <https://doi.org/10.1016/bs.atpp.2018.07.003>
- Porter, M. E. (1990). The Competitive Advantage of Nations. *Harvard Business Review*.
- Quas, A., Mason, C., Compagno, R., Testa, G., & Gavigan, J. P. (2022). The scale-up finance gap in the EU: Causes, consequences, and policy solutions. *Eur Manag J*, 40(5), 645-652. <https://doi.org/10.1016/j.emj.2022.08.003>
- Rijksoverheid. (2024). *Kabinet: verdienvermogen cruciaal voor sterke economie*. Retrieved 31 March from <https://www.rijksoverheid.nl/actueel/nieuws/2024/09/13/kabinet-verdienvermogen-cruciaal-voor-sterke-economie#:~:text=Het%20kabinet%20wil%20dat%20bedrijven,aanvullende%20bijdrage%20van%20regionale%20overheden>
- Rosenthal, S. S., & Strange, W. C. (2020). How Close Is Close? The Spatial Reach of Agglomeration Economies. *Journal of Economic Perspectives*, 34(3), 27-49. <https://doi.org/10.1257/jep.34.3.27>
- ScaleUpNation. (2020). *The art of scaling*.
- Schrijvers, M., Stam, E., & Bosma, N. (2023). Figuring it out: configurations of high-performing entrepreneurial ecosystems in Europe. *Regional Studies*, 58(5), 1096-1110. <https://doi.org/10.1080/00343404.2023.2226727>
- Stam, E., & Spigel, B. (2016). Entrepreneurial Ecosystems. *Discussion Paper Series*, 16-13.
- Stam, E., & van de Ven, A. (2019). Entrepreneurial ecosystem elements. *Small Business Economics*, 56(2), 809-832. <https://doi.org/10.1007/s11187-019-00270-6>
- Strengers, J., Mutsaers, L., van Rossum, L., & Graamans, E. (2022). The organizational culture of scale-ups and performance. *Journal of Organizational Change Management*, 35(8), 115-130. <https://doi.org/10.1108/jocm-09-2021-0268>
- Van Bergeijk, P. (2022). An update on world trade during the COVID-19 episode. *International Institute of Social Studies*(No. 694).
- Van den Berghe, K. B. J. (2023). Het verduurzamen van bedrijventerreinen: Hou(dt) (geen) rekening met de (veranderende maatschappelijk noodzakelijke) bedrijven. *Raad voor de Leefomgeving en Infrastructuur (RLI)*.
- van Meeteren, M. (2014). Learning by Bumping: Pathways of Dutch Smes to Foreign Direct Investment in Asia. *Tijdschrift voor Economische en Sociale Geografie*, 106(4), 471-485. <https://doi.org/10.1111/tesg.12121>
- van Straalen, F. M., van den Brink, A., & van Tatenhove, J. (2015). Integration and decentralization: the evolution of Dutch regional land policy. *International Planning Studies*, 21(2), 148-163. <https://doi.org/10.1080/13563475.2015.1115338>
- Weik, S., Achleitner, A.-K., & Braun, R. (2024). Venture capital and the international relocation of startups. *Research Policy*, 53(7). <https://doi.org/10.1016/j.respol.2024.105031>
- World Economic Forum. (2024). *How capital market finance can boost European businesses*. Retrieved 29-5 from <https://www.weforum.org/stories/2024/03/how-capital-market-finance-boost-european->

businesses/#.~:text=Bank%20loans%20are%20the%20main,pricing%20for%20SMEs%20and%20startups

Zonneveld, W. (2016). *The Changing Face of Dutch National Spatial Planning* 17th IPHS Conference,

Zonneveld, W., & Faludi, A. (1996). *Cohesion versus Competitive Position: A New Direction for European Spatial Planning?* ACSP-AESOP Joint International Congress, Toronto.

