

Operating Rescue & Emergency Services Privately

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Abstract

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Title of the thesis How To Operate Rescue & Emergency Services Privately Feasibility Study		
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Abstract <p>The thesis aimed to formulate a business plan assessing the viability and practicality of a private rescue operation, exploring its integration into the public sector network as an additional resource and specialized emergency service. In the context of Finland's existing professional and voluntary fire brigades, the study addressed the growing shortage of rescuers in the emergency services.</p> <p>The research, employing interviews and a mix of quantitative and qualitative methods, utilized a theoretical framework based on financial reports, Finnish legislation, and national materials related to corporate finance, with a focus on the Päijät-Häme Rescue Department. The key finding was that implementing private emergency services is feasible within national standards, emphasizing adherence to regulations in the Rescue Act and Welfare Sector Act.</p> <p>The conclusions highlighted the necessity for rescue professionals to undergo appropriate training, considering the strict regulatory framework governing public authority exercised by rescue authorities. The thesis also proposed a more realistic budget calculation for the financing of real estate and facilities within the welfare area's annual budget, suggesting further exploration of funding possibilities in the private sector and at the national level.</p>		
Keywords rescue services, business plan, privatization		

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1 INTRODUCTION

1.1 Research background

In Finland, a commonly accepted practice is for the state or municipalities to be responsible for the provision of emergency services, thereby ensuring that citizens have access to assistance around the clock, every day of the week. Nevertheless, this paradigm is currently experiencing a shift, as evidenced by the nationwide emergence of personnel shortages within rescue services (SPAL 2021). The primary underlying cause of this phenomenon is attributed to the lack of effective rescue service reforms. The thesis will discuss the potentials of operating a rescue service in Finland as a privately held institution, broadening to the operation process and financial analysis once the service is formed officially.

In Finland, accident prevention, rescue, preparedness, and civil protection form a comprehensive system that covers all types of accidents, from everyday accidents to major disasters. The Ministry of the Interior leads, directs and supervises the emergency services and prepares the relevant legislation. The aim is a safe and crisis-resistant Finland. There are 21 rescue services in Finland, which carry out rescue tasks on their territory. (Pelastustoimi 2021.)

Traditionally, rescue services such as firefighting, search and rescue, and emergency medical services have been primarily provided by government agencies, such as local fire departments, police departments, and emergency medical services (EMS) agencies. The Ministry of the Interior leads, directs and supervises rescue operations, takes care of national preparations and arrangements for rescue operations, coordinates the activities of different ministries and sectors in rescue operations and their development, and takes care of other tasks laid down for the Ministry of the Interior in this Act. The control and supervision of the level of accessibility of rescue services and services in the welfare area is governed by the (Act on the organization of rescue services 613/2021.)

In Finland, the first recognized fire brigade activity began in Turku in 1861. The first professional fire brigade was established in Helsinki in 1861. The first statutory Fire Act came into force in the 1930s. After that, firefighting became compulsory throughout Finland. (Suomen Palomuseot.fi.)

The provision of rescue services has suffered to a greater extent from so-called inflation, which is already reflected in the availability of labour at the national level. This challenging situation increased further during the COVID-19 situation with traditional rescue service model, where service preparation for pandemic varied geographically and dissonantly. In

such events, for example in the UK, some units were able to foresee risks and distribute labor works respectively while others did not react immediately. (HMICFRS 2021, 14-15.)

Problems with the career path and the physical demands of the job cause problems for the oldest firefighters. Reasons for this may include the lack of competitiveness in the sector, which is influenced by the prevailing pay gap. Welfare areas controlled by the state determine individual wage scales, which cannot be influenced at the individual level as flexibly as they could be in the private sector. The current level of salaries in the rescue sector is not in line with economic developments, rising costs or interest rates (Pelastustieto 2021.)

In some cases, private companies do provide rescue services, particularly in industries such as oil and gas, mining, and aviation where specialized rescue services may be required. In these industries, private rescue companies are often contracted to provide specialized rescue services and equipment, such as high-angle rope rescue, confined space rescue, and hazardous materials response. These companies may also provide training and consultation services to their clients to help them develop emergency response plans and prepare for emergencies. While private companies can provide valuable support to government rescue services in certain situations, it is important to note that rescue services are a critical component of public safety and must be provided in a way that ensures the safety and well-being of all individuals in the community. Therefore, any private sector involvement in rescue services should be subject to appropriate regulation and oversight to ensure that high standards of safety and quality are maintained.

There are many studies on different business case models, but very few studies and theses on the privatization of rescue services. This is probably because the provision of rescue services has always been provided by the public sector and therefore the decisions of these services have been made by local governments. In general, the provision of rescue services has been the responsibility of the municipalities. The author has thirteen years of experience in the field of rescue services as a senior firefighter and as a fire brigade officer, and thus aims to open up the research in the thesis.

One potential benefit of having private rescue services is that they can provide additional resources and capacity to respond to emergencies. They may also be able to offer specialized services that public rescue services may not provide. In addition, the private sector could diversify into separate roles. This would not only increase attractiveness and labour force supply, but also respond to the different orientations of the sector.

1.2 Research objectives, questions and limitations

Research objectives and research questions

The objectives of a research endeavour to delineate the ultimate goals that researchers aim to accomplish through their study. To attain these goals, researchers often disaggregate the primary research question(s) into smaller, more manageable components that serve as the key elements of a research project. This approach facilitates the development of a coherent and structured research plan that is aligned with the research objectives. (Discover PhDs 2021.)

The aim of the thesis is to investigate whether rescue services can be provided privately and to identify the advantages and challenges of operating this business idea as a privately held company. One of the main elements of this work is to create a coarse business model for a private service provider and to consider its feasibility. In addition, the thesis aims to discuss which issues should be considered as a private emergency service provider. The issues to be considered in the research work are the legal regulations and limitations of the law and directives governing the private emergency service to be integrated into the public sector.

The purpose of a research question is to specify a certain area in the field of interest. Research question tells the aspect and perspective of the research. It is crucial to formulate research questions carefully. They must be understandable, exact, and specific. Formulation of research question reveals stability of research design and suitability of data collection and analysis. Finally, research questions must be in concrete terms aiming to narrow down the field under study. It must be evaluated whether the answer can be given in the framework and restricted resources. (Flick 2009, 98-103.)

The core part of the thesis has a problem or so-called main question that defines the content of the research work. The main question or chosen problem around which the research work is focused is the guiding factor and one of the most important parts of the research work. (Wordvice 2022.)

The focus of the study

Main question

How to operate rescue & emergency services privately?

Sub-questions

- 1) What legal aspects should be considered?
- 2) What financial aspects need to be considered to provide rescue & emergency services privately?

Limitations

Limitations that can arise in research include limited access to information, uncertain sources, and anomalies. Limitations in access to information related to the research topic are often related to the research design and data limitations. The impact of these can affect the research results and the topic's scope. Often, researchers avoid mentioning limitations in their work, as they feel that this reduces the value of the research. (Wordvice 2022.) Regarding limitations, it is recommended for researchers to acknowledge the research limitation to address parts that are difficult for researchers to control and to narrow the scope of research (Radu 2019).

The main limiting factor is the fact that no similar model for a private rescue service has been implemented in Finland before. Private ambulance services, on the other hand, have been available for quite some time. Therefore, the thesis will provide rigorous data from one station as a case business model referred to the available data from several sources. This means that this research will not provide a broader perspective at the national or international level and the method of approach in this research will be limited to inductive approach. This study will also not go into more detail on the most cost-effective way to provide emergency services privately, which should also be carefully analyzed in terms of business viability.

In the study, the author will use the model of a single rescue station, where the author will go through the resource requirements from an equipment, and from an economic standpoint.

1.3 Methodology, theoretical framework & data collection

Research methodology

The planning and selection of the research approach, methods and collecting data is the initial process of the research work. Once the topic has been chosen, the choice of research methods, data collection and analysis methods are more consistent and clearer. Selecting and defining the research topic is a time-consuming process but without proper topic formulation, the outcome of the research work may fall short. (Saunders et al. 2015, 27.)

When approaching research, scientists usually encounter two fundamental approaches known as: inductive and deductive. They are contrasted in a way that deductive approach starts with an existing theory, creating a hypothesis, then confirming it through data analysis. Meanwhile, the inductive approach usually involves topics that are limited to existing resources and confirming the theory through numerous pattern recognition. (Ketokivi & Mantere 2010, 33-35.)

The scientific methodology is a tool of fundamental importance for the confirmation of knowledge of through research. (Queirós 2017, 370.) There are two approaches for research methodology: qualitative and quantitative, and a combination of the two approaches, known as mixed method. Quantitative research methods endeavour to systematically collect and statistically analyse numerical data in the natural sciences with the objective of predicting, describing, or controlling variables of interest. (Gay, et al. 2009, 7). It gathers the data often by doing experiments, with outcomes that are analytical either numerical or categorizable data. Meanwhile, qualitative research methods goals are to study the objects in their natural settings and understand the synthetic nature of the social reality behind it. Interviews are often conducted as a method to gather data, but qualitative data can also be videos, photographs, and recordings. (Gay, et al. 2009, 7-8.). Furthermore, the quantitative-qualitative research method, also known as mixed methods, is conducted as the combination of the above methods in an emerging social science research paradigm. (Baškarada & Koronios 2018, 2-3.)

It is important to the background knowledge of this research topic is inductive, which guides the research methods of the thesis. Once the research methods have been selected, the data will be broken down into primary sources and secondary sources for further analysing (*Figure 1*). The views and perceptions of professionals in the field of enabling private services play a significant role in exploring the topic of the research. It is therefore most logical

to use a qualitative research method in the form of interviews using primary data. Nevertheless, to clarify certain economic and statistical facts, a quantitative research approach will also be part of the study in financial analysis part later of this research.

Data collection

Data collection refers to the systematic gathering and analysis of pertinent data variables in order to address particular research queries, validate hypotheses, and evaluate outcomes. There are two types of data, known as primary data and secondary data. Primary data is achieved information through practical works by interviews, questionnaires, schedules, and surveys, which are exactly what the author will use in this research. On the other hand, secondary data that are available information through offline and online publications, previous research, media broadcasts, academic and trusted sources. These sources will mainly be journal publications, electronic sources, and articles. In the research, the author will mainly use secondary data for definitions, and in the empirical research that needs analytical analysis in the second sub-question. (Simplilearn Solutions 2023.)



Figure 1. Research process

Data collection can be divided on three separate sections. First the research approach need to be chosen as on this example it is considered as an inductive research approach. Secondly the author needs to choose the best suited research methods. Both, qualitative and quantitative methods can be used simultaneously if needed. As the third and last part of the research and data collection process the author needs to separate the primary sources from the secondary sources.

Theoretical Framework

Theoretical framework to a study can be considered as a blueprint to a house, if built without one, the outcome is poor. It must be thought of and planned before the building starts. It provides foundations for the literature, and analysis and methods. (Grant & Osanloo 2015.)

It can be followed as a guide which to follow during the thesis and what are your own theories based on. To produce theoretical framework, it requires studying previous research and theories related to the subject, or similar, if there are any. It is possible to find a connection between theories and make predictions, how something might affect the outcome (Sinclair 2007.)

As mentioned earlier in the introduction part, the research aims to clarify the opportunity of having a private rescue service provider and at the same time, examine existing rescue services and compare that to the figured case as a private service provider. In the study, the author seeks to identify an alternative option for improving the efficiency of emergency services, while exploring its potential feasibility, taking into account possible legal and economic limitations. The research will use interviews, legal provisions, and professional publications as main sources.

1.4 Structure of the thesis

The thesis is divided into five main sections. The first section discusses the need for the research topic and the availability of background data. The second section provides a detailed background to the topic, serving as the theoretical foundation. The third section focuses on empirical aspects, detailing the research development and potential resolution methods. The fourth section presents a case-type example addressing challenges or problems identified in the research. Finally, the fifth section summarizes the findings, solutions, and potential shortcomings of the research (Figure 2.)



Figure 2. Structure of the research

In order to have a quality research, it is important to establish the structure of the research at an early stage. It allows the author to structure the main points of the research and to clarify the research process. It provides a logical and clear path for the progress of the research.

2 LEGISLATION and ACTIVITIES

2.1 Rescue and emergency services in Finland

Emergency services are provided under the management of a welfare district, which has been operational since the beginning of 2023. The welfare region organizes the tasks assigned to it by law. The statutory tasks of the welfare region when it starts operating, are the organization of social welfare, health care and rescue services. A welfare region may take on tasks in its territory which support its statutory tasks (limited general competence of the welfare region). The tasks taken on by a welfare region may include at least international activities in connection with its statutory tasks and the promotion of the interests of the welfare regions among themselves. The extent to which a welfare region takes on a task must not jeopardise the performance of its statutory tasks. A welfare region may, within its territory or jointly with another welfare region, also carry out low-risk business activities within the territory of that welfare region which support the fulfilment of its statutory tasks. The law on the welfare region also provides for the operation of the welfare region in a competitive market situation. (Sote-uudistus 2023.)

The day-to-day tasks of the emergency services include responding to various emergency calls, preventing accidents, protecting and rescuing people, the environment and property involved in accidents and in danger. These tasks include extinguishing fires, preventing and limiting accidents involving dangerous substances. Various water rescue tasks and the rescue of people stranded in water. Every year, the rescue services carry out around 100, 000 different types of rescue operations (Table 2). As a rule, accidents and threats in the most populated urban areas are dealt with by a full-time, professional fire brigade. In less densely populated areas, the emergency services may be part-time or voluntary. The full-time staff of rescue services are trained as multi-purpose rescuers. They can deal with all types of accidents, including ambulance and medical rescue operations. Secondary and other contract staff also have their own training system. The amount of rescue and assistance tasks are annually over one hundred thousand (Figure 3).

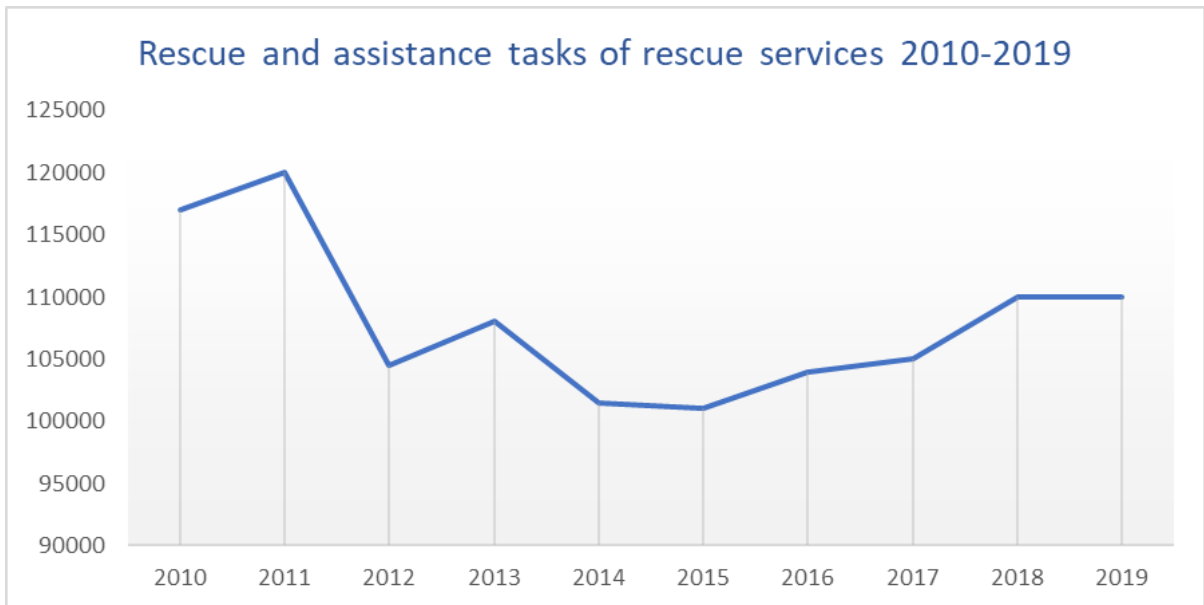


Figure 3. Annually rescue and assistance tasks (Pelastustoimi 2023).

The rescue operation is always led by the highest-ranking rescue authority at the scene of the accident. In addition to the rescue authorities, the rescue mission may also include, for example, emergency services and police authorities. The tasks of the emergency services are therefore often so-called multi-agency tasks, which require seamless and effective co-operation between the different authorities. (Pelastustoimi 2023).

One of the big challenges of the research is the strong legal basis of the sector and the extent to which organisations operating under state control are governed by law. Furthermore, when it comes to professional training factors, the training in the Finnish rescue services is governed by strict rules and regulations.

2.2 Law of welfare areas

As the services of the rescue agreement are arranged within welfare areas, the law on welfare areas determines the way in which services can be provided within a welfare area.

Welfare region

A welfare region is a public-law entity separate from municipalities and the state, with autonomy over its territory. A welfare region and its subsidiaries form a welfare region group. The activities of a welfare region include, in addition to the activities of the welfare region and the welfare region group, other activities based on ownership, contract and financing. (Sote-uudistus 2023.)

Welfare Region Law (611/2021)

7 § Responsibility for organizing

The welfare region is responsible for the performance of its statutory tasks, the exercise of the statutory rights of the residents of the welfare region and the coordination of services and other measures to be provide

- 1) *equal access;*
- 2) *the determination of need, quantity, and quality;*
- 3) *the choice of the method of delivery;*
- 4) *the management and supervision of the provision of services;*
- 5) *the exercise of the authority's powers; (Welfare region law 611/2021.)*

The law on the welfare area allows room for independent guidance to the extent deemed necessary to fulfil the obligations of the so-called service level decision. Separate welfare areas can also agree on certain joint commitments between themselves, if necessary (Welfare region law 2021.)

The welfare region may perform the tasks itself or agree to transfer responsibility for organization to another welfare region. In addition, the organization of the tasks of the welfare regions may be consolidated in one or more welfare regions if this is necessary to improve the quality and accessibility of services, to ensure sufficient human and other resources or the special expertise required for the task, or for other similar and justified reasons. (Welfare region law 611/2021.)

A welfare region shall be responsible for financing its tasks, even if the responsibility for organizing the service has been transferred to another welfare region or the task is assumed by another welfare region by law. (Welfare region law 611/2021.)

9 § Provision of services

Unless otherwise provided by law, a welfare region may provide the services for which it is responsible by itself, in cooperation with other welfare regions or by contract with other

service providers. The use of service vouchers is regulated separately. (Welfare region law 611/2021.)

A welfare region may entrust a public administrative task to a non-public authority only if this is expressly provided for by law. (Welfare region law 611/2021.)

Even if a welfare region acquires services from another service provider, it retains the responsibility for organizing them. Furthermore, the responsibility of the service provider for the services is determined by the provisions of this or any other law and by the division of responsibility agreed between the welfare region and the service provider. (Welfare region law 611/2021.)

From 2023 onwards, the welfare regions will manage and organize the emergency services to the extent deemed appropriate in terms of resources and financial needs.

10 § Implementation and monitoring of the responsibility for production

The welfare region must ensure that the other service provider providing the services for which it is responsible has the professional, operational, and financial capacity to provide the services. The welfare region must include in its statutes and in its contracts with private service providers the provisions necessary for the implementation of the welfare region's organizational responsibility. The welfare region must manage and monitor the production of the services for which it is responsible. The welfare region shall be entitled to obtain from private service providers and their subcontractors, free of charge and without prejudice to confidentiality provisions, the information and reports necessary to ensure the conditions for the proper production of services and for carrying out supervision. In addition, the authority of the welfare region shall have the right to inspect the premises and equipment of the private service provider and its subcontractors and, in this connection, to enter the premises under the control of the private service provider and its subcontractors, in order to ensure the conditions for the proper provision of services and to carry out controls. However, the right of inspection shall not apply to premises used for permanent accommodation, unless such inspection is necessary to safeguard the status and rights of the client and the provision of appropriate services. Otherwise, the provisions of Article 39 of the Administrative Code (434/2003) apply. (Welfare region law 611/2021.)

2.3 Rescue act (379/2011)

The purpose of this Act is to improve the safety of people and to reduce the number of accidents. The purpose of the Act is also to ensure that when there is the threat of an accident or when an accident has occurred, people are rescued, essential functions are secured, and the consequences of the accident are successfully limited. (Rescue act 379/2011.)

The main purpose of the rescue act is to underline the activities, responsibilities, and restrictions of practicing rescue services in Finland.

This Act lays down provisions on the duty of individuals, enterprises and other organizations and legal persons:

- 1) to prevent fires and other accidents;*
- 2) to prepare for accidents and operations when there is the threat of an accident or when an accident occurs;*
- 3) to limit the consequences of accidents;*
- 4) to construct and maintain civil defence shelters;*
- 5) to participate in the tasks carried out as part of rescue operations and in civil defence training. (Rescue act 379/2011.)*

2.4 Resources

Resource planning is one of the main parts of the service delivery strategy.

The following should be considered when assessing resource needs

- consider the wishes of the municipalities when drawing up the service level decision
- considering the link between the results of the risk analysis and the level of service in the service level decision when drawing up the service level agreement
- the development of the service level decision and other strategic and policy documents and operational and financial planning
- taking account of corporate governance when drawing up the service level decision
- linking financial planning to the preparation of the service level decision
- critical review of operations in the light of legislation and the wishes expressed by municipalities
- addressing the shortcomings identified in the previous service level decision
- taking account of the corporate nature of the decision on the service level agreement

The proposal for the service level decision has been drafted by the heads of department of the rescue service and the rescue director. (Päijät-Hämeen Pelastuslaitos 2020.)

Personnel

In rescue and emergency operations, the crew's work includes extinguishing fires, rescuing people in accident situations, treating and transporting patients in emergency care, and various preparedness-related maintenance work. Rescuers are rescue professionals who also need practical manual skills and based on their training, will be able to choose the right

and most appropriate rescue methods to save patients or property and to protect the environment. In addition to practical skills, rescuers also need to be able to cope with psychologically stressful and traumatic work situations. (Hirvonen 2019.)

Equipment

To maintain firefighting and emergency preparedness, the emergency service provider must have appropriate protective and rescue equipment that meets standards. Personal protective equipment sold in Finland must be CE-marked and comply with the requirements of the Personal Protective Equipment Regulation (EU). (Ala-Kokko 2021, 23.)

Communication

The main communication system for rescue services is the Virve network. The Virve network enables communication between authorities, both in day-to-day operations and in crisis situations. Virve is used not only by emergency services, but also by all authorities, such as the police, rescue services, the emergency response centre, and the border guard. (Erillisverkot 2016.)

Training and education

The training of rescue crews provides them with the skills for accident prevention, safety communication, rescue operations, basic emergency care and civil protection at crew level, in accordance with the strategic guidelines of the rescue services. In addition, it provides a good attitude to continuously develop one's own skills. (Hirvonen 2019.)

One of the main tasks operating in the rescue field is smoke diving. Smoke diving is work involving special hazards, as referred to in Section 11 of the Occupational Safety and Health Act, in which where there is a risk of accident or illness. This work may only be carried out by a person who is qualified for the work and who is suited to it in terms of his or her personal conditions. Safe smoke diving requires a specific qualification of the worker, based on his state of health, functional capacity, training, and education. An explicit decision is required to approve a new diver as fit to dive. (Pelastussukellusohje 2017, 5.)

Facilities

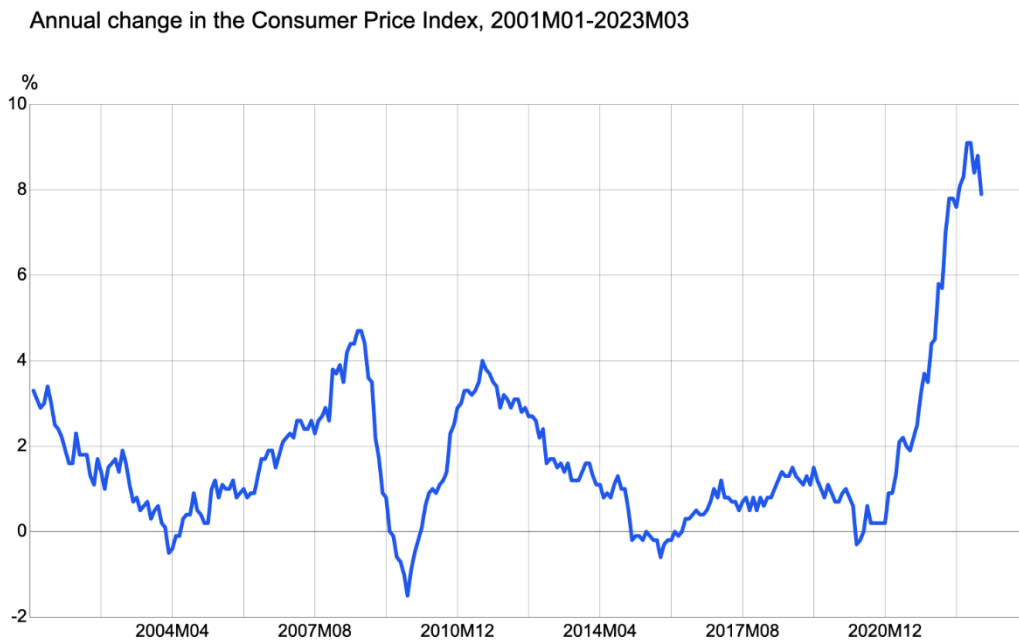
When considering the purchase and design of a fire station, the first and most important feature is the location of the fire station. The location will be carefully determined based on risk analyses to ensure that the necessary preparedness and target times are met. (RRM Design Group 2013.)

The requirements and characteristics of a fire station are defined separately for each emergency service provider, according to the service level decision established by that service provider. The service level decision is a decision based on the Rescue Act, which decides how the statutory rescue services are to be provided in the rescue service. The service level decision is taken by the Rescue Board, after consulting the municipalities in the Rescue Board's area. The Regional State Administrative Agency for Western and Central Finland supervises the legality of the decision. (Pelastustoimi 2013.)

3 FINANCIAL CALCULATIONS

3.1 Background for financial calculations under current circumstances

Based on the public sector financial report, specifically from Päijät-Häme Rescue Department, the author will go through the financial planning process for operating the service, including preliminary acquisition expenses, fundings according to welfare region (See section 2.1), business operating costs and service pricing. Data was collected through interviews and official publications in the field. The interviewees were selected based on their long professional careers. The written material for the study consists mainly of professional publications on legislation and guidelines. The author also considers the current consumer price index (CPI) due to recent turbulence of inflation and rampaging interest rates from the ECB.



Source: Statistics Finland, consumer price index

Figure 4. Annual change in the consumer price index (Statistics Finland 2023)

Due to inflation, costs of starting and operating private businesses increased significantly as a result of less purchasing power through fiscal policies (Oner 2010, 30). The current CPI of Europe has sharpened significantly since the start of the pandemic COVID-19 from near respectively 1% to over 9%. With the rapid adjustment from ECB for interest rates to

hamper the inflation that spread across Europe (0,75% to 4,00% from July 2022 till May 2023) (ECB Statistics 2023), the CPI has been lower temporarily since the beginning of Q1, 2023 at approximately 8%. For calculation purposes, the authors will use CPI level at 6% for the estimation of raising costs index for purchasing <https://www.ecb.europa.eu/stats/policy-and-exchange-rates/key-ecb-interest-rates/html/index.en.html>

For starting a private business in general, funding, and initial investment are two most important factors to establish a business project. In addition to the initial capital, business financing, external investment or the combination of the two can be used to finance the purchases needed to start vital business activities in the company. Requirements for facilities in tangible business idea is extremely crucial to make business idea work. In this section, the author will suggest the two scenarios in establishing a private firefighting & rescue service company in Päijät-Häme region.

3.2 Legal base & funding sources

Rules and regulations

The main operation funding comes from the welfare regions. Funding for the welfare regions is based mainly on state funding and partly on contributions (Head of administration 2023). Each welfare region is granted a sum of euros in state funding, which is obtained by adding together the imputed costs of social welfare and health care referred to in Section 13 of the Act on the Financing of Welfare Regions and the imputed costs of rescue services referred to in Section 21. In addition, the regions will receive a transitional compensation, or the amount of the transitional compensation will be deducted from the financing of the regions in accordance with Article 35 of the Act. (Valtion talousarvioesitykset 2023.)

The regions decide on the use and allocation of funding based on their autonomy. Differences between regions in the service needs of their inhabitants and the conditions under which they are provided are considered in the factors determining state funding. Funding must guarantee the provision of adequate social and health services as required by the constitution. In line with the government programme, one of the objectives of the reform of the social welfare and health care system is also to contain cost increases. The financing model thus includes incentives to control cost growth, which will also contribute to ensuring the sustainability of public finances. (Sote-uudistus 2021.)

Welfare areas can apply for an insured or non-insured loan from the state for additional costs of the building plan, if there are justified reasons. The Council of State decides on the granting of the loan. (Laki Hyvinvointialueesta 2021.)

Welfare region

The welfare region is the main funding source for establishing and operating the fire & rescue services. The annual operation costs and additional cost sources will be added to the annual budget plan which will be considered as the main funding to operate. The private company need to follow a guideline accordingly to its municipalities to evaluate its own budget for the next calendar year, preferably by the end of the year. Therefore, the board of welfare region will be evaluating this framework and set a capital limit accordingly towards the adjustments. Even though the welfare region funding covers almost all financial contribution for annual cost of the rescue service the private operator can access to emergency funding from the state. It is highly concern that “overspend budget has a negative impact” for the next calendar year. (Appendix 1). For example, Fire and rescue funding administration has extra funding for operation cost and small equipment support valued at 12000€ and 5000€ respectively. (Palosuojelurahasto 2023). According to the head of ministry the expected costs of a firefighting & rescue services for 200 personnel will be approximately 20 million euros. She also suggested that the budgeting should follow an increase of 1,0 to 1,5% compared to the previous years due to the wage increases and unavoidable incursion. (Appendix 1). The author will suggest a model of a private fire & rescue services of total 9 personnel.

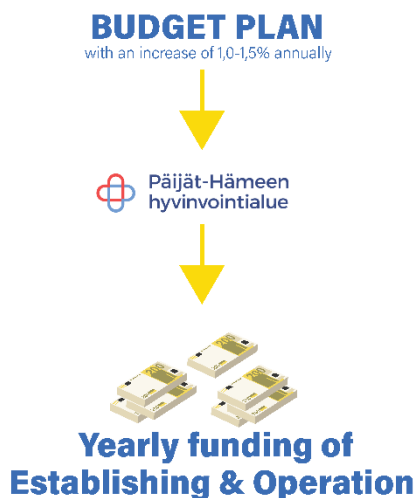


Figure 5. Funding process

Centre for Economic Development, Transport and the Environment

Centre for Economic Development, Transport and the Environment supports the development and investment projects of small and medium-sized Finnish companies. Their aim is to create new business, promote the growth and internationalisation of SMEs and strengthen the company's innovation activities. (ELY 2023.)

Social Insurance Institution (KELA)

The customer is entitled to reimbursement of the necessary costs of the emergency and non-emergency ambulance service provided for by the welfare region. Reimbursement is paid for the costs of the journey. Reimbursement shall not be made for care provided before or during transport, nor, as a rule, for tasks not involving transport. Reimbursement is made only for the costs of a single unit, even if several units were involved in the treatment of the patient. If the patient is treated at the destination, reimbursement is granted if the conditions for reimbursement are met. If the patient is transferred to another ambulance in the middle of the journey, Kela will reimburse the costs up to the maximum of the costs that would have been incurred if the journey had been made in one ambulance. (KELA 2023.)

The upper reimbursement criteria for the reimbursement of ambulance transport costs are laid down in a decree issued by the Ministry of Social Affairs and Health. If emergency care or non-emergency ambulance services reimbursed by Kela have been put out to tender and the reimbursement is based on a more favourable price than that laid down in the Regulation, the service provider must apply to Kela for reimbursement based on the most favourable price. Reimbursement is paid to the service provider per client and per journey based on form SV 210, Statement and application for reimbursement for ambulance transport. If another method has been agreed with the service provider, all the same information must be submitted to Kela as on the form for the costs of emergency care or ambulance transport that led to the transport. (KELA 2023.)

For hospital transport made by ambulances, the Social Insurance Institution may reimburse the costs of the patient's transport. Basis for reimbursement of departure and kilometre fees the basis for reimbursement of the departure charge for new transport shall not exceed EUR 69,35. If the journey exceeds 20 km, the basis for reimbursement of transport costs for the part of the journey exceeding 20 km will be a maximum of EUR 1,85 for each additional

kilometre. The transport distance is calculated from the place where the car is parked back to the place where the car is parked. (Finlex 490/2018.)

According to the 2022 statistics, the reimbursement rate for emergency care unit costs was 70.7% for Finland as a whole. In Päijät-Häme 70.5%. The average cost for the whole country was 83,80€/transport (v 2022). Päijät-Häme 83,25€/transport. (Lappalainen 2023.)

EU Funding

European union funding is also a reasonable funding source because in their funding program they cover also subsidies managed by national and regional authorities (European Union 2023).

3.3 Establishment & operation financials for fire & rescue services

Scenario 1: Property acquisition in establishing stage

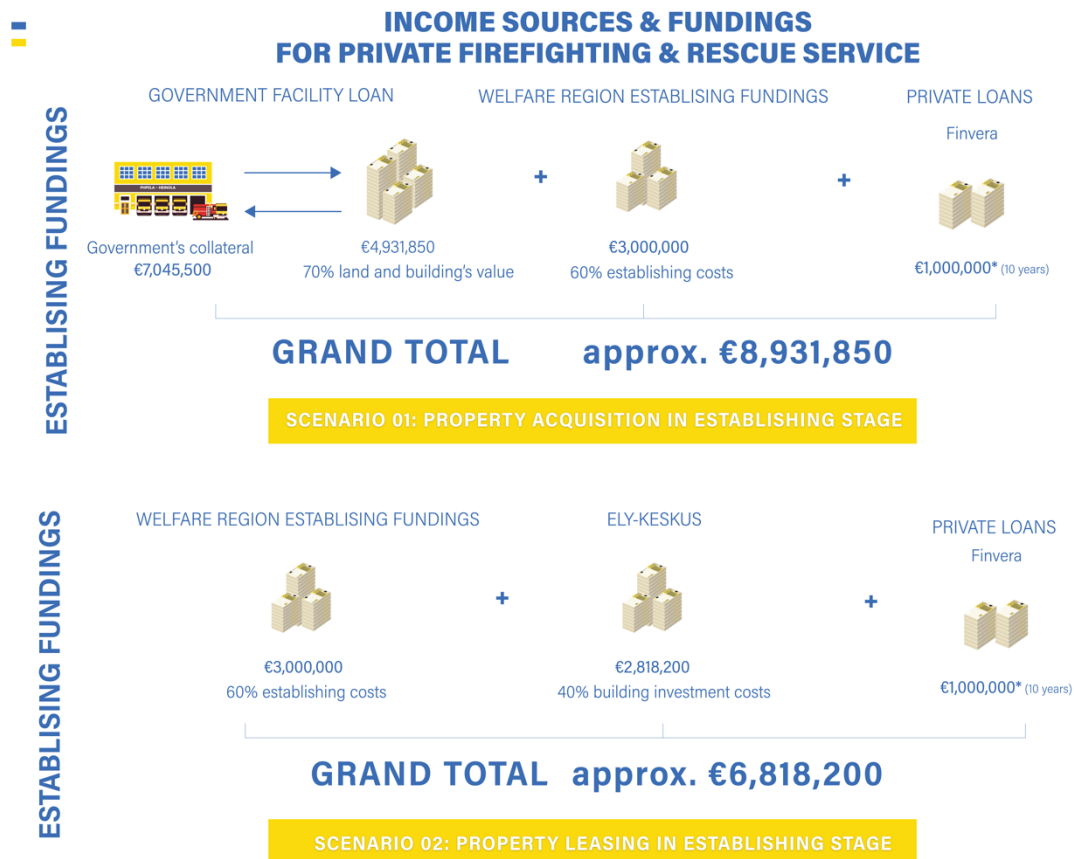
This scenario propagates the purchasing of land and building construction from Päijät-Häme region that the company can own it and use it as collateral for the Finnish government in its balance sheet. The welfare region, previously, known as the municipality support from Finnish government, can apply loans for business and establishing fundings which account of 70% and 60% the purchases respectively (Laki24 2023.) The loan granted from the state can be also up to non-insured loan (see section 3.7). On the first hand, all the establishing cost should be covered through the welfare region funding, as it can apply for government funding and loans from the government. The next year's budget which is first approved by the regional council of the welfare region (Talousarvio ja suunnitelma 2021.) It is estimated that the land and building construction of a fire station in Päijät-Häme would cost up to €7,045,500 of which the building construction costs €5,795,500. Building construction includes construction framework, functional rooms (meeting room, readiness room, maintenance dorm, ambulance facility, offices), water & electricity installation, lighting system, and infrastructure connections. The estimated costs are calculated taking in count the existing fire stations average costs in Päijät-Häme (Rakennusfakta 2023.)

Table 1. Scenario 1: Property acquisition in establishing stage

Scenario 1: Property acquisition in establishing stage			
PREMILIARY OPERATION COSTS INCL. VAT (24%)	Unit	PRICE/UNIT	TOTAL PRICE
1. Premises & connections fees (Kai Teeva)			8 265 500 €
Complete buiding premises (approx. 2,300m2)	1		8 085 500 €
Land (Lahti suburb)	1	1 250 000 €	1 250 000 €
Building construction			5 795 500 €
<i>Contruction frame</i>	1	3 200 000 €	3 200 000 €
<i>Meeting room</i>	1	173 000 €	173 000 €
<i>Readiness room</i>	1	300 000 €	300 000 €
<i>Mainternance dorm</i>	3	200 000 €	600 000 €
<i>Shower & WC facilities</i>	5	9 500 €	47 500 €
<i>Ambulance facilities</i>	1	87 000 €	87 000 €
<i>Living room (incl. Kitchen)</i>	1	300 000 €	300 000 €
<i>Service garage</i>	2	100 000 €	200 000 €
<i>Halls</i>	2	84 000 €	168 000 €
<i>Offices</i>	3	50 000 €	150 000 €
<i>Other facilities</i>	1	570 000 €	570 000 €
Water installation	1	340 000 €	340 000 €
Electric installation & wires	1	350 000 €	350 000 €
Lightning	1	200 000 €	200 000 €
Starting subscriptions fees	1	30 000 €	30 000 €
Connection (internet, security gateway, LAN, DDoS protection)	3	50 000 €	150 000 €
2. Machinery and equipments (Fleet Magager PHELA)			1 840 000 €
Ladder firestruck	1	920 000 €	920 000 €
Tanker	1	300 000 €	300 000 €
Rescue firetruck	1	350 000 €	350 000 €
Ambulance	1	120 000 €	120 000 €
Office supplies	1	100 000 €	100 000 €
Goods storage	1	50 000 €	50 000 €
3. Working capital			200 000 €
4. Developing investment			50 000 €
In total			10 355 500 €

Furthermore, service owners can consider loan from private entities, such as Finvera or ELY-keskus. Finvera is a financing solution for startups and growing companies owned by the Finnish government. Finvera is the most reliable and considerable low-interest creditors for businesses in Finland, supporting for more than 24,000 companies till 2023. (Finvera 2023). The author concerns about the ramp up in interest rates issued by ECB (Euribor 6-

month of 3,5% in May 2023, plus service fee 1%) (Suomenpankki 2023), therefore, the estimated mandatory return of interests & service costs for these private loans may takes around 80980,36€ in the first year and reduced gradually accordingly to the reduction of principal (annually, 147821,88€). The total return of interest during the 10-year period amounted to €478,218.80. In this scenario, the total preliminary costs of infrastructure acquisition is approximately 8 million euro and starting equipment's cost is around 1.8 million euro for basic firefighting and rescue transportants and machinery. The sustain capital recommended for the starting business should be around 200,000€ and further development investment is around 50,000€. Estimated costs of this scenario are around 10,8 million in euro, and the author recommend business owner to this scenario if funding sources are available as it has tax advantages for the business in later years (Table 2.)



* repayment amounts, interests, terms (See Appendix 3)

Figure 6. Scenario 2: Property leasing in establishing stage

Renting facilities is highly accessible and affordable way of operating a business in fire-fighting and rescue services in Finland. Renting costs will directly be forwarded to the Income Statement, therefore, reduce excessive balance sheet weight and has significant tax benefits (Vero 2023).

According to the 2020's real statistics from PHPELA, it costed 3,084,149€ for rental property costs of a total of 27 stations in Päijät-Häme region while the Cost-of-Living index was 1969 in January (Tilastokeskus 2023). The cost prediction for stations usually starts at the end of the previous year while the actual renting period is at the beginning of the next year. Therefore, the author will access January Cost of Living Index (CVI) for year 2020 and year 2023 (as of for renting fee calculation).

The expected renting fee's formula is:

$$\frac{CVI's\ desired\ period}{CVI's\ past\ period} \times Past\ period's\ princple$$

The accurate calculation based on average costs of 27 station should be:

$$\frac{2249}{1969} \times \left(\frac{3,084,149}{27} \right) = 130,471\text{€}$$

The starting cost of premises and connection for functioning the facility is around 310,471€ in the first year, see scenario 2. However, it is noticeable that the leasing cost is in operating costs, therefore the expected renting fee will end at the income statement but not in the balance sheet as in Scenario 1.

Table 2. Scenario 2: Grand total calculations

Scenario 2: Property leasing in establishing stage			
PREMILIARY OPERATION COSTS INCL. VAT (24%)	Unit	PRICE/UNIT	TOTAL PRICE
1. Premises & connections fees (Kai Teeva)			310 471 €
Complete buiding premises (approx. 2,300m2)*	1	130 471 €	130 471 €
Starting subscriptions fees	1	30 000 €	30 000 €
Connection ((internet, security gateway, LAN, DDoS protection)	3	50 000 €	150 000 €
2. Machinery and equipments (Fleet Magager PHPELA)			1 840 000 €
Ladder firestruck	1	920 000 €	920 000 €
Tanker	1	300 000 €	300 000 €
Rescue firetruck	1	350 000 €	350 000 €
Ambulance	1	120 000 €	120 000 €
Office supplies	1	100 000 €	100 000 €
Goods storage	1	50 000 €	50 000 €
3. Working capital			200 000 €
4. Developing investment			50 000 €
In total			2 400 471 €
*January is the month for rent calculation			
Data of Cost of Living Index Jan. 2020 (1969)- Jan. 2023 (2249)			
Formular: New index / Old index * Old rent price = New rent price			

Machinery starting costs, working capital and development investment remain the same as in Scenario 1. Therefore, in this scenario, the expected capital needed for the starting year amounted to be approximately 2.4 million in euro.

Business operation expected financials (Scenario 2)

According to PHPELA's financial template, Business operation costs sections include the repayment of debt; personnel expenses; purchases of services; materials, supplies, and goods expenses; grant rewards; rents; other fees (PHPELA 2023). In this context, the author will estimate the costs of business operation for three forwarding years, starting from 2024, the statistics refer to actual costs of 2020 and are adjusted according to the expected inflation rate between 3% - 10% depending on different cost allocation.

The total operating expenses calculated in the predictable scenario, where inflation rates vary between 3% to 10%, are ranging from 1,643,843€ up to near 2 million euro in year-third. It is noticeable that transportants, eg. Fire cars, vans are subtracted to spare part's costs, and maintenance. (See Appendix 7). The operating costs are calculated with the absence of debt repayment, or principle loan paid amount, to be precised.

Due to limitation in unrelated sector, specifically in real estate for project that needs public funding, the author will only conduct the financial calculations of operating expenses for

Scenario 2. The calculations defy for a period of three years (2024-2026) where audiences can see the impact of the maturity of fixed-assets investments (in the establishing costs). There is total 6 criteria's that authors discuss in the operation costs based on the PHPELA's actually financial spending in 2020 and its estimation for the later years.

Debt repayment

For business operation, company must pay debt to ensure its ability to stay solvent and able to maintain loan supports. The working capital distributed each year for balance secure is approximately 200,000€ for each annum. The total principal of loan is 1 million in a period of 10 years for purpose of company establishment & first equipment acquisitions. Followed by the loan from Finvera as introduced in Scenario 1, the author has conducted calculation based on repayments calculations of 8,35%/year (4,75% fixed Finvera interest rates + Euribor in May) for period of 120 months (10 years) using EDfinancial's tools (Edfinancial 2023). Summing up the total repayments of the first 36 months, the first three years accounting for debt repayment are 80 980,36€ (2024), 75 682,43€ (2025) and 64 374,18 (2025) with fixed repayment every month of 12,318,49€ in which cumulative payment is 1,478,218.59€, including principle. In the period of 10 years, the amount of interest will be 478,218,59€, accounted for 47,82% the original loan of 1 million euro. It is good to know that the interest's expenses will be deducted straight from the income statement for operation purposes.

Table 3. Loan payment calculator

LOAN PAYMENT CALCULATOR	
Monthly Loan Payment:	\$12,318.49
Number of Payments:	120
Cumulative Payments:	\$1,478,218.59
Total Interest Paid:	\$478,218.59

Personnel expenses

As a small operation, the company will have 7 permanent employees for firefighting unit, medical unit, and rescue unit, plus two board members (CEO & Manager). Personnels expenses includes salary, pension payments, and administration expenses stated as fees.

Basic salary of full-time permanent workers will be approximately 51,000€ per year, or 26,56€/hour. With the combination of TyEL (16,85%) (pension insurance for workers), archived from Varma calculations, plus extra fees such as Health insurance contribution (1,52%), Occupational accident insurance (0,75%), and Unemployment mandatory contribution (0,52%), a permanent position will account for 61,016.40€ or 427,115.80€ in one year for a crew of 7 workers stated as salary cost with public contributions according to the Finnish's Law. For board members, each member will get a fixed of 75,000€ per year plus 14,730€ in mandatory contributions. All employees will get an increase of 2% of previous annual salary for the next years as stated in the calculations of business calculation costs for Salary section.

The author predicts that over-time payments, substitution of workers, and billed services for salary will cost a total of 55,800€ of which substitutions account for approximately 75% of expected expenditure due to sickness, holiday, and emergency. The expected increase in costs year-on-year (YoY) will be 3% for the following calendar years.

For administration purposes, including meeting expenses, educations, and health insurance benefits (not mandatory) the budget will be 2100€, 10 000€, (4440 PHPELA's Financial report 2022) for all 7 crew members and the two administrative.

Other costs reflected from PHPELA's financial calculations are bill incidentals, and billed pension. The costs of both are minimal at approximately 235€/year for the total crew.

From reference of PHPELA's expenses, the author has conducted the purchase expenses into two segments: services expenses & tangible expenses. At first, service expenses include office expenses, banking, accounting, insurance, billings, repairs services, maintenance services, and so on. The expect total costs of services is approximately 200,000€ for the first year and increasing to nearly 300,000€ in year third, due to expired of transportation premium (2 years of base warranty). It is noticeable that the author has used public data on pricing of Accountor+ (accounting services), Nordea (banking services), and Virve (communication system) as reference to the pricing input. Moving to materials, supplies, and goods (tangible expenses), the expected costs of the first year is around 160,000€ in which fuel and transportation costs account for one third of the total tangible expenses. Besides, it is noticeable that the car parts are effective starting from the third year due to the transportation premium expiry.

Rents, including construction leasing & equipment rentals will cost approximately 150,000€, straight to the Income statement for operation purposes. Meanwhile, other income expenses such as meeting setup & negotiation expense does not take a large sum per year

but convenient to notice. The author also noted in the financial plan in the section regarding the immediate tax, however, yet to fulfil the expected number due to profit uncertainties. However, in the next section, the author will give the expected level of extra income that the limited liability can produce to bring profit apart from its public distribution for the welfare region.

To sum up, the total expected cost of operating a firefighting and rescue service ranges from 1,6 million to 2,0 million depending on the level of extra expenses for personnels. The cost of the third year of operation will be higher mainly due to expired in transportation premium. These extra costs accounts for 4-5% of the total operation cost for each year starting from year third and will increase in value due to degradation in car value. It is also noticeable that the personnel expenses, or salary & benefits in this term, rank at the highest value in cost of operating the services.

3.4 Additional income

First aid and fire-fighting training for organisations

As a rescue professional, the company can offer a range of training courses in first aid and firefighting for public institutions and non-governmental organizations. The training combines training in first aid (AS1) and an emergency first aid course of four hours. The aim of the first aid component is to provide skills in lifesaving first aid and first aid in medical emergencies. Training is a one-day course where company staff are trained in these civic skills to develop a company safety culture. Companies, especially firms working under safety guidelines, need supervision and trainings for their staffs in order to reflect better working conditions and safety for surroundings. According to Alertum a foundation for safety training in Finland, on and the estimated market prior one person to have safety training is currently at €139 excluding VAT. In addition, a separate certificate can be issued to those who complete the course at a price of €11 per person excluding VAT. (Alertum 2023.) In this regard, the fire & rescue private company can access to approximately 51,708€/year by having 20 institutions & companies at averagely 15 employees for each unit.

Insurance collaboration (Premium increase & Damage control)

Incident response, or additional damage prevention is a rapid response at the site to limit, prevent, and or reduce damage to a building, structure, movable property or other immovable property. It seeks to reduce the time of interruption to the operation or use of the building caused by the damage. Subsequent damage after the actual damage event can be

caused by water, smoke, soot, chemicals, weather damage, collapses, etc. n. The cost of the aftermath can be significant in terms of the total cost of the damage. Measures to combat an aftermath include ventilation of loose water, fire or other gases, removal of chemicals or fire debris, temporary power and water supply, etc. heating, supporting and protecting structures, and moving movable property, or additional needed protection. (Beretta 2016.) By collaboration with insurance companies for premium increase, the company can generate a significant amount of revenue to provide responses for damage control & prevention. The insurance company may offer the option to policyholders to add firefighting and rescue services coverage to their insurance package for an additional premium. Policyholders who choose this option would pay a higher premium, and a portion of that increased premium would be allocated towards covering the cost of the firefighting and rescue services. For expected 100 customers annually, the company can produce at approximately 80,000€ (excluding service fees) by offering better option for fire services towards insurance institutions.

Business packages

Factories and companies, especially new factories, event's organizers, & new apartment buildings need a strong foundation for preventing fire and hazardous threats. Private fire & rescue services can provide preventive inspections and consultation services. These services can be provided at the early stage of building construction or in the other hand in the stage of building renovation improvements or other changes that might lead to a change of use of the building. This consultation and additional inspection services cannot be calculated in a result-orientated since the needs for these services vary widely and are independent of time or market conditions. The author makes a conservative estimate that the annual revenue stream from these services could be in the region of €120 000, based on 50 potential customers.



* price per certification training card is 139€ + 24% VAT + premium (if needed) (Alertum 2023)

Figure 7. Additional income for fire & rescue private services

To sum up, the total expected additional that a private fire & rescue service and gain apart from the public support towards the Welfare region could be up to 250,000€ annually for a small and reasonable number of customers within the region (Figure 7).

4 SUMMARY

4.1 Answers to research questions

The study aims to clarify the opportunity of having a private rescue service provider and at the same time, examine existing rescue services and compare that to the figured case as a private service provider. The main question is: How to operate rescue and emergency services privately? During the study three main points emerged as necessary to obtain this answer.

Legal possibilities, restrictions and required competence

Based on the Rescue Services Act, private rescue services can be provided in accordance with the regulations of both the Rescue Act and the Welfare Areas Act. The rescue professional must have the appropriate training in accordance with the Rescue Act. The rescue authority exercises public authority in its work, which is also strictly regulated by public authority regulations. This public power may not be exercised by anyone other than the person appointed to the post, who must have specific qualifications and training. Volunteer fire brigades operating as associations or organisations are already a kind of private sector fire brigade, but their basic training does not allow them to exercise public authority. The right to exercise public power must be defined for private rescue services as a completely new matter for the Ministry of the Interior. Nevertheless, a private sector civil servant must undergo formal training as a rescuer and other necessary advanced training before taking office.

Financial observation

During the thesis process, the financial plan was implemented by comparing two different possible options. In the first budget calculation, the costs of all facilities and equipment were reviewed from a total ownership perspective. This option proved to be more expensive as expected. As a second consideration, the profit share would remain zero in the early stages of the business.

The second budget calculation implemented a more realistic budget calculation where the real estate and facilities would be financed from the annual budget of the welfare area. The Päijät-Häme Rescue Service, currently used as a reference, no longer owns the rescue stations and ownership was transferred to the Päijät-Häme Welfare Region. Facilities and

equipment purchases could also be financed by a state loan, which would be handled in cooperation with the State Treasury and the Ministry of the Interior.

The provision of a private rescue service in a welfare area would ensure service delivery, both qualitatively and strategically. The addition of the private sector to the service level agreement could be compared to the specialist services provided by the health services but would be accessible to all. At the budgetary level, private emergency services could be tailored to the needs of specific welfare areas and would be easily adaptable. At the same time, private sector revenues would be profitable, especially in line with the second budget calculation. Wage levels and the price of the service could be determined separately once the annual costs are known. This would also allow for a better level of salaries for rescue staff, as well as a diversification of daily tasks.

4.2 Discussion and reflection

Centralised supply and specialisation of services

The advantages of private service provision lie in the concentration of services in a particular operator or sector. The service purchaser can order specific services individually according to his preferences and needs.

A solution to the career path problem for firefighters

In view of the demanding nature of the work, the physical characteristics, the increased retirement age and the challenges of ageing, it is very important to consider career paths in the field of rescue. At the individual level, ensuring job continuity has been a by-product of this research, which the researcher has already considered as an important attribute at an early stage of the research.

Through the privatization model of this research, career path opportunities have been highlighted through the diversification of different types of job descriptions. According to the level of service, private rescue services can specialize in various support functions, which do not have the same physical requirements as, for example, operational smoke-diving firefighters. After a certain age limit, it is possible for an operational firefighter to move on to other activities with lower physical requirements, such as fire inspection, towing, awareness-raising, prevention, emergency response and training.

To enable this career path plan, the current training base in the sector needs to be broadened to allow entry into these roles at an earlier stage of a career. The current practice in rescue services is to transfer older people to driver positions, of which there are a limited number. For this reason, older firefighters are still working in the demanding smoke-diving tasks of the operational department.

4.3 Suggestions for further research

To enable the provision of private rescue services, the necessary funding opportunities should be further explored. It is particularly important that this funding be committed as part of the budgets of the welfare regions. To make this possible, a dedicated planning committee should be set up, comprising representatives of the Ministry of the Interior and the Ministry of Finance, in addition to those of the emergency services and the welfare regions.

Furthermore, the training of rescuers should be diversified or, alternatively, the variety and number of training courses offered by the Finnish Rescue Association should be updated.

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Appendix 1. Questionnaire

INTERVIEW 1

21.04.2023

HEAD OF ADMINISTRATION

1. Are you aware of private sector emergency services?
2. From an economic point of view, what do you think is good about the private sector compared to the public sector?
3. What is the most challenging aspect of budgeting?
4. What is the most important part of budgeting in emergency services?
5. How does public sector funding work in practice?
6. On an annual budget level, how would you estimate the costs of maintaining a private station?
7. What unexpected costs may arise in emergency services that should be considered when planning for the private sector?
8. What additional expenditure could be cut from the emergency services?
9. Do you think that private emergency services could be provided in the future?
10. What are the most financially challenging aspects of the rescue sector from the point of view of service delivery?
11. Finally, how would you describe the role of budgeting in business?

Appendix 2. Questionnaire

INTERVIEW

24.0.2023

FLEET MANAGER

1. Are you aware of private sector emergency services?
2. What kind of equipment is usually purchased by rescue services on an annual basis?
3. What is the largest annual expenditure on equipment in a rescue service?
4. What impact has modern equipment had on the performance of tasks?
5. What are the current requirements for the equipment of the rescue service?
6. Are there any improvements that need to be made?
7. What challenges do you foresee for the future in terms of equipment?
8. What are the minimum resources in terms of equipment that a private rescue station could operate with?
9. How do you see the private rescue sector operating at national level in Finland?
10. In which way do you maximize cost-effectiveness in your job?
11. What is the most challenging aspect of budgeting for your work?

Appendix 3. Phone Interview & E-mail Conversation

INTERVIEW 4

2.5.2023

GOVERNMENT COUNSELLOR

1. Which provisions apply to the decision on the choice of the method of providing emergency services by law?
2. Which provisions may restrict the provision of private emergency services by law?
3. Do you think it is possible to create a private rescue service in Finland and has a similar model been tried yet?

Appendix 4. Questionnaire

ELY-Keskus

19.5.2023

1. Could you provide more insight into the specific criteria or characteristics that the ELY Centre considers when evaluating SME development projects for funding?
2. How does ELY determine the challenging and high-quality nature of projects, and what indicators or metrics are used to assess the potential impact on employment, turnover, or export growth?
3. Additionally, can you elaborate on the types of activities or initiatives that the ELY Centre does not support, such as normal activities of the enterprise or sales and marketing measures?
4. Could you elaborate on the key factors outlined in the regional funding guidelines that influence the eligibility of projects for support?
5. Are there specific measures explicitly excluded from funding, and what considerations are taken into account when making these determinations?
6. Can you elaborate on the criteria that determine the aid rate for SMEs' investments, particularly focusing on how the size and location of the company influence the percentage granted?
7. How does the classification of assisted areas I and II impact the eligibility of large enterprises for investment funding, and what types of investments, both tangible and intangible, are covered under the mentioned support program?

Legislation

Law on State Aid for Enterprise Development for the period 2021-2028 (758/2021).

Government Decree on State aid for business development for the period 2021-2028 (895/2021)

Act on the financing of regional development and EU regional and structural policy projects (757/2021).

Business expert

Centre for Economic Development, Transport and the Environment

Appendix 5. Phone interview

Insurance district manager, KELA

23.5.2023

I have a question concerning the reimbursement of emergency and non-emergency ambulance services by Kela. What is the general reimbursement rate for the welfare region for the service/transport provided by the emergency services?

I can find the legal basis/regulations of the Council of State and the maximum amount of compensation (€69.35). I just need to know whether it covers all the transport per patient provided by the emergency services, for example, or whether it is a percentage of the rest paid by the welfare association, for example.

Appendix 6. PHPELA Financial Report

https://lut-my.sharepoint.com/:x:/r/personal/erik_delavegakekkonen_student_lab_fi/_layouts/15/Doc.aspx?sourcedoc=%7B5CC56535-F439-44E5-A500-A633993C58C8%7D&file=Financial%20calculations_Fire%20Department%202022%202022.xlsx&action=default&mobileredirect=true

PÄIJÄT-HÄMEEN
PELASTUSLAITOS

TALOUSARVIO 2022

Talousarvion "raami"
/ osastoittain
yhteensä

		TA 2021	korotukset	2022	Osastot yhteensä 2021	Erotus
	Myyntituotot	20,530,830	0	20,683,698	20,729,698	46,000
	<i>Liiketoiminnan myyntituotot</i>	<i>159,000</i>	<i>0</i>	<i>100,000</i>	<i>137,000</i>	<i>37,000</i>
3001	Myyntituotot	119,000	0	100,000	115,000	15,000
3002	Myyntituotot kunnilta	0	0	0	0	0
3010	Myyntituotot muilta	40,000	0	0	22,000	22,000
	<i>Korvaukset kunnilta ja kuntayhtymiltä</i>	<i>20,286,830</i>	<i>0</i>	<i>20,487,698</i>	<i>20,502,698</i>	<i>15,000</i>
3110	Jäsenkuntien maksuosuudet ja k	20,086,830	0	20,287,698	20,287,698	0
3115	Muut myyntituotot kunnilta	200,000	0	200,000	200,000	0

3130	Muut korvaukset	0	0	0	15,000	15,000
	<i>Muut suoritteiden myyntituotot</i>	85,000	0	96,000	90,000	-6,000
3140	Muut myyntituotot	85,000	0	96,000	90,000	-6,000
	Mak-sutuotot	0	0	0	0	0
3209	Muut yleishallinnon maksut	0	0	0	0	0
	Tuet ja avustukset	115,300	830	120,000	107,500	-12,500
3330	Muut tuet ja avustukset muilta (Kela)	55,300	830	27,000	57,500	30,500
3335	Muut tuet ja avustukset (Öt)	60,000	0	93,000	50,000	-43,000
	Muut toimintatuotot	240,000	0	224,000	123,500	-100,500
3510	Pysyvien vastaavien myyntituotot	120,000	0	112,000	120,000	8,000
3530	Muut tuotot	120,000	0	112,000	3,500	-108,500
	TOIMINTATUOTOT					
	YHTEENSÄ	20,886,130	830	21,027,698	20,960,698	-67,000
	TOIMINTAKULUT					
	Henkilöstökulut	-12,458,635	-243,562	-12,412,902	-12,396,549	16,352
	<i>Palkat ja palkkiot</i>	-10,126,480	-101,265	-10,227,745	-10,138,720	89,025
4001	Kokouspalkkiot	-8,100	-81	-8,181	-7,200	981
4002	Vakinaisten kuukausipalkat	-6,489,600	-64,896	-6,554,496	-6,621,700	-67,204
4003	Sijaiset, määräaikaiset	-852,700	-8,527	-861,227	-759,000	102,227
4004	Ylityöt	-30,200	-302	-30,502	-37,000	-6,498
4005	Varallaolo-korvaukset	-175,000	-1,750	-176,750	-190,000	-13,250
4006	Haittalisät, vpk:n palkat	-2,713,200	-27,132	-2,740,332	-2,139,800	600,532
4006	Vpk:n palkat	0	0	0	-517,800	-517,800
4007	Laskutetut palkat	37,000	370	37,370	37,180	-190

	Asiantunt.pa					
4012	lkkiot ja lu-					
	entopalkkiot	-6,000	-60	-6,060	-5,000	1,060
4013	Muut palkat	0	0	0	0	0
4060	Jaksotetut					
	palkat	0	0	0	0	0
	Sai-					
	rasvakuu-					
	tus-					
4230	korvaukset	111,320	1,113	112,433	101,600	-10,833
	<i>Hen-</i>					
	<i>kilösivukulut</i>	-2,332,155	-142,297	-2,185,157	-2,257,829	-72,672
	<i>Eläkekulut</i>	-1,750,690	-142,297	-1,594,505	-1,749,579	-155,074
4100	KuEI-mak-					
	sut 17,74 %	-1,757,000	-122,990	-1,594,505	-1,755,900	-161,395
	Muut työe-					
	läkemaksut					
4110	17,35 %	0	-19,339	0	0	0
	Eläkemen-					
	operusteiset					
4120	(tot x 1.08)	0	0	0	0	0
4125		0	0	0	0	0
4129	Laskutetut					
	eläkekulut	6,310	32	0	6,321	6,321
4130	Jaksotetut					
	eläkekulut	0	0	0	0	0
	<i>Muut hen-</i>					
	<i>kilösivukulut</i>	-581,465	0	-590,652	-508,250	82,402
	Sairausvaku-					
	utusm. 0,74					
4150	%	-137,600		-590,652	-157,000	433,652
	Työt-					
	tömyysvaku-					
	utusmaksut					
4160	1,745 %	-174,600		0	-195,000	-195,000
	Tapaturma-					
	vakuu-					
	tusmaksut					
4170	1,5 %	-267,000		0	-153,900	-153,900
4176	Laskutetut					
	sivukulut	1,635		0	1,650	1,650
	Muut so-					
	siaalivakuu-					
	tusmaksut					
4180	0,1 %	-3,900		0	-4,000	-4,000
	Jaksotetut					
	sosiaali-					
	vakuu-					
	tusmaksut					
4190		0			0	0
	Palvelujen					
	ostot	-2,168,075	-207,355	-2,425,437	-2,388,499	36,938
	Palvelujen					
	ostot kun-					
4310	nilta	0	0	0	0	0

4330	Palvelujen ostot sop.kumpp. (vpk:t)	-393,700	-37,653	-431,360	-451,000	-19,640
4340	Toimistopalvelut (mm. tulostus)	-32,200	-3,080	-35,280	-25,100	10,180
4342	Rahoitus- ja pankkipalvelut	-3,700	-354	-4,054	-4,500	-446
4343	ICT- ja atk-palvelut (myös puh)	-571,500	-54,658	-676,158	-695,749	-19,591
4345	Muut asiantuntijapalvelut	-7,500	-717	-8,217	-13,500	-5,283
4350	Painatukset ja ilmoitukset	-16,500	-1,578	-18,078	-16,700	1,378
4360	Posti- ja kuriiripalvelut	-17,300	-1,655	-18,955	-20,300	-1,345
4361	Virve-palvelut	-99,225	-9,490	-108,715	-100,000	8,715
4370	Vakuutukset	-116,950	-11,185	-128,135	-148,400	-20,265
4381	Siivouspalvelut	-100,000	-9,564	-109,564	-100,000	9,564
4382	Pesula-palvelut	-8,000	-765	-8,765	-7,000	1,765
4384	Jätehuolto	-8,500	-813	-9,313	-12,150	-2,837
4390	Rakennusten ja alueiden rakent	-70,000	-6,695	-76,695	-55,000	21,695
4391	Autojen korjaukset	-193,000	-18,459	-211,459	-188,000	23,459
4400	Koneiden, kaluston ja laitteid	-125,000	-11,955	-136,955	-122,000	14,955
4410	Majoitus- ja ravitsemus-palvelu	-13,000	-1,243	-14,243	-12,000	2,243
4420	Verottomat korvaukset	-14,800	-1,415	-16,215	-14,800	1,415
4430	Sosiaali- ja terveyspalvelut	-30,700	-2,936	-33,636	-31,600	2,036
4432	Työterveyspalvelut	-182,500	-17,454	-199,954	-189,200	10,754
4440	Koulutus	-53,500	-5,117	-58,617	-53,000	5,617
4460	Muut yhteisötoimintaosuudet	-10,000	-956	-10,956	-10,000	956

4470	Ateriamak- supidätykset	-60,400	-5,777	-66,177	-76,500	-10,323
4475	Muut palve- lut	-16,100	-1,540	-17,640	-21,000	-3,360
4480	Henkilökun- nan virkistys	-24,000	-2,295	-26,295	-21,000	5,295
	Aineet, tarvikkeet ja tavarat	-1,009,000	-20,180	-1,029,180	-1,018,000	11,180
	<i>Ostot tili- kauden ai- kana</i>	<i>-1,009,000</i>	<i>-20,180</i>	<i>-1,029,180</i>	<i>-1,018,000</i>	<i>11,180</i>
4500	Toimisto- ja koulu- tarvikkeet	-5,200	-104	-5,304	-4,000	1,304
4510	Kirjallisuus	-5,000	-100	-5,100	-6,000	-900
4511	Oppikirjat	-650	-13	-663	-700	-37
4520	Elintarvikke- et	-10,850	-217	-11,067	-13,200	-2,133
4530	Vaatteisto	-26,100	-522	-26,622	-25,600	1,022
4531	Suoja- vaatteisto (työsuojelu)	-66,000	-1,320	-67,320	-65,000	2,320
4540	Lääkkeet	0	0	0	0	0
4550	Siivous- ja puhdis- tusaineet	-14,000	-280	-14,280	-10,500	3,780
4560	Poltto- ja voiteluaineet	-158,500	-3,170	-161,670	-171,000	-9,330
4570	Lämmitys (Artjärven auton säilytystila)	0	0	0	0	0
4571	Sähkö	-12,500	-250	-12,750	-11,000	1,750
4572	Vesi	0	0	0	0	0
4580	Kalusto	-343,500	-6,870	-350,370	-343,300	7,070
4581	Atk-laitteet	-47,500	-950	-48,450	-54,500	-6,050
4590	Ra- kennusmate- riaali	0	0	0	0	0
4591	Varaosat (autot)	-45,500	-910	-46,410	-45,000	1,410
4600	Muu materi- aali	-268,500	-5,370	-273,870	-263,000	10,870
4645	Henkilöstön merkki- päivä- ja kann.lahjat	-5,200	-104	-5,304	-5,200	104
	Avustukset	-50,000	0	-1,500	-1,500	0

4740	Avustukset yhteisöille	-50,000	0	-1,500	-1,500	0	
	Muut toimintakulut	-4,260,920	-154,074	-4,368,680	-4,447,250	-78,570	
	Vuokrat	-4,147,700	-145,170	-4,314,679	-4,435,200	-120,521	
4820	Rakenn. vuokrat	-4,135,500	-144,743	-4,314,679	-4,351,500	-36,821	
4821	Laskutetut vuokrat	50,000	1,750	0	15,000	15,000	
4840	Koneiden ja laitteiden vuokrat	-47,200	-1,652	0	-81,200	-81,200	
4860	Muut vuokrat (öt)	-15,000	-525	0	-17,500	-17,500	
	Muut toimintakulut	-113,220	-8,905	-54,001	-12,050	41,951	
4910	Välittömät verot	0	-9,000		0	0	
4930	Jäsenmaksut	-10,300	0	-20,000	-10,150	9,850	
4935	Kokous- ja neuvottelukulut	-400	0		-400	-400	
4940	Muut kulut	-102,020	103	-34,001	-1,000	33,001	
4941	Luottotapit	-500	-8		-500	-500	
	<i>Toimintakate</i>	<i>939,500</i>	<i>-624,341</i>	<i>790,000</i>	<i>708,900</i>	<i>-81,100</i>	<i>81,100</i>

TOIMIN-
TAKULUT

YHTEENSÄ -19,946,630 -625,171 -20,237,698 -20,251,798 **14,100**

-67,000

**toimintatu-
otot**

Poistot

790,000

Rahoitustu-
otot

20,000

Appendix 7.

BUSINESS OPERATION COSTS FOR ACCOUNTING PERIOD OF 3 YEARS FOR RESCUE EMERGENCY SERVICE PRIVATELY

BUSINESS OPERATION COSTS (INCL. VAT 24%)	First 3-year Accounting period		
	2024	2025	2026
Length of accounting period (10 years)			
1. Repayment of debt & interests on loan			
Finvera's interests (4,75% + Euribor)	80 980,36 €	75 682,43 €	64 374,18 €
Capital repayment (monthly)	147 821,88 €	147 821,88 €	147 821,88 €
Total amount to be repaid (with interest) for 10 years:			\$1,478,218.80
Total interest to be repaid for 10 years:			\$478,218.80

2. Personnel expenses (7 permanent employees + 1 CEO + 1 manager)			
Salaries & fees			
Salary			
<i>Salary of permanent employees</i>	357 000 €	364 140 €	371 423 €
<i>Overtime</i>	13 000 €	13 390 €	13 792 €
<i>Substitutes, temporary</i>	42 000 €	43 260 €	44 558 €
<i>Billed salaries</i>	800 €	824 €	849 €
<i>Board of chair salaries</i>	150 000 €	153 000 €	156 060 €
Fees			
<i>Meeting fees</i>	2 100 €	2 163 €	2 228 €
<i>Expert fees and lecture fees</i>	10 000 €	10 300 €	10 609 €
<i>Health insurance benefits</i>	558 €	575 €	592 €
Pension expenses			
TyEL payments for permanent employees (16,85%)	60 154,50 €	61 357,59 €	62 584,74 €
Employer's other non-wage labour costs in total (2,32%)	9 960,30 €	10 159,51 €	10 362,70 €
<i>Health insurance contribution (1,52%)</i>	5 426,40 €	5 534,93 €	5 645,63 €
<i>Unemployment insurance contribution (0,52%)</i>	1 856 €	1 894 €	1 931 €
<i>Occupational accident insurance contribution and group life insurance (0,75%)</i>	2 678 €	2 731 €	2 786 €

TyEL payments for Board members (16,85%)	25 275,00 €	25 780,50 €	26 296,11 €
Employer's other non-wage labour costs in total (2,32%)	4 185 €		
<i>Health insurance contribution (1,52%)</i>	2 280 €	2 326 €	2 372 €
<i>Unemployment insurance contribution (0,52)</i>	780 €	796 €	812 €
<i>Occupational accident insurance contribution and group life insurance (0,75%)</i>	1 125 €	1 148 €	1 170 €
Other social insurance contributions (0,1%)	85,43 €	87,14 €	88,88 €
Bill incidentals (ticket fees)	100 €	110 €	120 €
Billed pension	135 €	135 €	135 €

3. Purchase of services & goods			
Purchase of services	200 587,40 €	220 736,14 €	291 359,75 €
Office services (printing, media etc.)	3 000,00 €	3 500,00 €	4 000,00 €
Financials & Banking service (Nordea)	428,40 €	361,24 €	397,36 €
ICT & Computer services	42 000,00 €	46 200,00 €	50 820,00 €
Accounting (Accountor+ M-package)	3 009,00 €	3 309,90 €	3 640,89 €
Print & announcements	1 800,00 €	1 980,00 €	2 178,00 €
Postal and courier services	2 000,00 €	2 200,00 €	2 420,00 €
Insurances	20 000,00 €	22 000,00 €	24 200,00 €
Cleaning services	36 000,00 €	39 600,00 €	43 560,00 €
Laundry services	2 400,00 €	2 640,00 €	2 904,00 €
Waste disposal	3 000,00 €	3 300,00 €	3 630,00 €
Construction of buildings and areas	4 200,00 €	4 620,00 €	5 082,00 €
Car repairs	- €	- €	48 400,00 €
Machinery, equipment and device services (incl. Virve communication system)	43 000,00 €	47 300,00 €	52 030,00 €
Accommodation and catering service	2 500,00 €	2 750,00 €	3 025,00 €
Tax-free allowances	3 350,00 €	3 685,00 €	4 053,50 €
Social and Health Services	4 000,00 €	4 400,00 €	4 840,00 €
Occupational health care	6 800,00 €	7 480,00 €	8 228,00 €
Training	4 100,00 €	4 510,00 €	4 961,00 €
Meal deductions	5 000,00 €	5 500,00 €	6 050,00 €
Other services	8 000,00 €	8 800,00 €	9 680,00 €
Staff recreation	6 000,00 €	6 600,00 €	7 260,00 €
Materials, supplies, and goods	160 609,24 €	176 670,17 €	230 637,19 €
Office and school supplies	10 000,00 €	11 000,00 €	12 100,00 €
Literature	11 000,00 €	12 100,00 €	13 310,00 €
Textbooks	500,00 €	550,00 €	605,00 €
Foods	7 000,00 €	7 700,00 €	8 470,00 €
Clothing	4 500,00 €	4 950,00 €	5 445,00 €
Protective clothing (occupational protection)	4 950,00 €	5 445,00 €	5 989,50 €
Medicines	200,00 €	220,00 €	242,00 €
Cleaning equipments	4 500,00 €	4 950,00 €	5 445,00 €
Fuels and lubricants	52 000,00 €	57 200,00 €	62 920,00 €
Electric	2 959,24 €	3 255,17 €	3 580,69 €

Water	- €	- €	- €
Stock	10 000,00 €	11 000,00 €	12 100,00 €
Computer equipment	23 000,00 €	25 300,00 €	27 830,00 €
Building material	15 000,00 €	16 500,00 €	18 150,00 €
Spare parts (cars)	- €	- €	36 300,00 €
Other material	10 000,00 €	11 000,00 €	12 100,00 €
Employee anniversary and support gifts	5 000,00 €	5 500,00 €	6 050,00 €
4. Grants			
Grant to community	500,00 €	550,00 €	605,00 €
5. Rents			
Construction rents	130 471 €	- €	- €
Rentals of machines and equipment	15 000,00 €	16 500,00 €	18 150,00 €
Other rents	1 000,00 €	1 100,00 €	1 210,00 €
Other operating expenses			
Immediate taxes	- €	- €	- €
Meeting and negotiation expenses	3 000,00 €	3 300,00 €	3 630,00 €
Other expenses	1 000,00 €	1 100,00 €	1 210,00 €

TOTAL OPERATING EXPENSES <i>(not including principle of loan paid)</i>	1 643 843 €	1 592 755 €	1 847 587 €
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NOTES:

ELY

Here are some general criteria that Business Finland may consider for funding support for firefighting and rescue services:

Innovation: Business Finland may prioritize funding for firefighting and rescue services that are innovative and introduce new approaches, technologies, or methods that have not been previously used in the industry.

Internationalization potential: Business Finland may consider the potential for firefighting and rescue services to expand into international markets and increase their competitiveness globally.

Growth potential: Business Finland may prioritize funding for firefighting and rescue services that have a clear growth strategy and a high potential for job creation, revenue growth, and overall economic impact.

Sustainability: Business Finland may consider the sustainability of firefighting and rescue services, including their environmental impact and commitment to sustainable practices.

Competence and experience: Business Finland may assess the competence and experience of the firefighting and rescue service provider's management team, staff, and partners to determine their ability to deliver high-quality services.

Insurance Companies and Property Owners: Insurance companies and property owners may engage private firefighting and rescue services to enhance the safety and protection of their insured properties. These arrangements can involve offering specialized services, such as fire risk assessments, inspections, and dedicated emergency response teams.

Industrial and Commercial Clients: Private firefighting and rescue services can cater to industrial and commercial clients that require on-site emergency response capabilities. This can include providing dedicated firefighting teams, conducting fire drills and safety training, and offering consultation on emergency preparedness.

Event Coverage: Private firefighting and rescue services can offer event coverage services for festivals, concerts, sports events, and other large gatherings. These services may include setting up temporary fire stations, providing medical assistance, and ensuring overall safety during the event.

Training and Consultation: Private firefighting and rescue services can generate income by offering training programs and consultation services to businesses, organizations, and individuals. This can include fire safety training, first aid courses, emergency response planning, and regulatory compliance assistance.

Costs of TyEL & Unemployment fees

Answer:

= 16.8498% difference

Solution:

Calculate percentage difference
between $V_1 = 4250$ and $V_2 = 5032$

$$\begin{aligned} & \frac{|V_1 - V_2|}{\left[\frac{(V_1 + V_2)}{2}\right]} \times 100 = ? \\ & = \frac{|4250 - 5032|}{\left[\frac{(4250 + 5032)}{2}\right]} \times 100 \\ & = \frac{|-782|}{\left[\frac{9282}{2}\right]} \times 100 \\ & = \frac{782}{4641} \times 100 \\ & = 0.168498 \times 100 \\ & = 16.8498\% \text{ difference} \end{aligned}$$

TyEL:



Calculate the costs of hiring an employee

Payroll per month

€/mo.

Employee's age group

17–52

53–62

63–68

Calculate

Employer's costs in total

5,151 €/mo.

Employer's share of the TyEL contribution

782 €/mo.

Employee's gross earnings

4,250 €/mo.

Employer's other non-wage labour costs in total

119 €

Specification of non-wage labour costs

Health insurance contribution

65 €/mo.

Unemployment insurance contribution

22 €/mo.

Occupational accident insurance contribution and group life insurance

32 €/mo.

VARMA

The average of Housing and Building consumption/ year is 18893,67 kWh according to the Electricity Balance report average of the period of 3 years from 2018 to 2021 ([Energiatilisuus 2023](#))

Service Contracts with welfare region and municipalities: Private firefighting and rescue services can enter into contracts with local municipalities to provide supplementary emergency response services. These contracts can involve responding to emergencies within the municipality's jurisdiction or providing additional coverage during peak times or emergencies. (PHPELA Financial report 2022.)