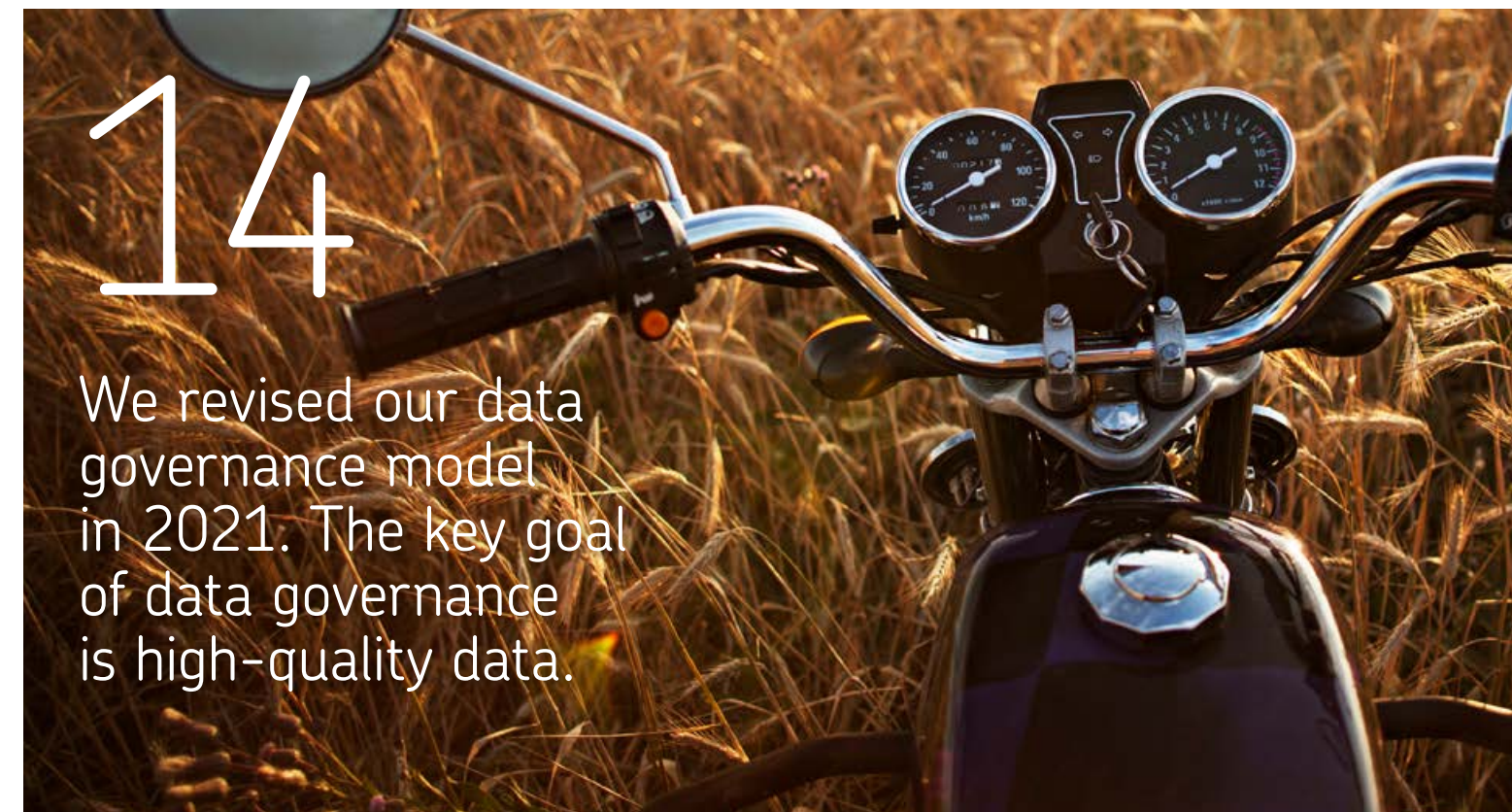
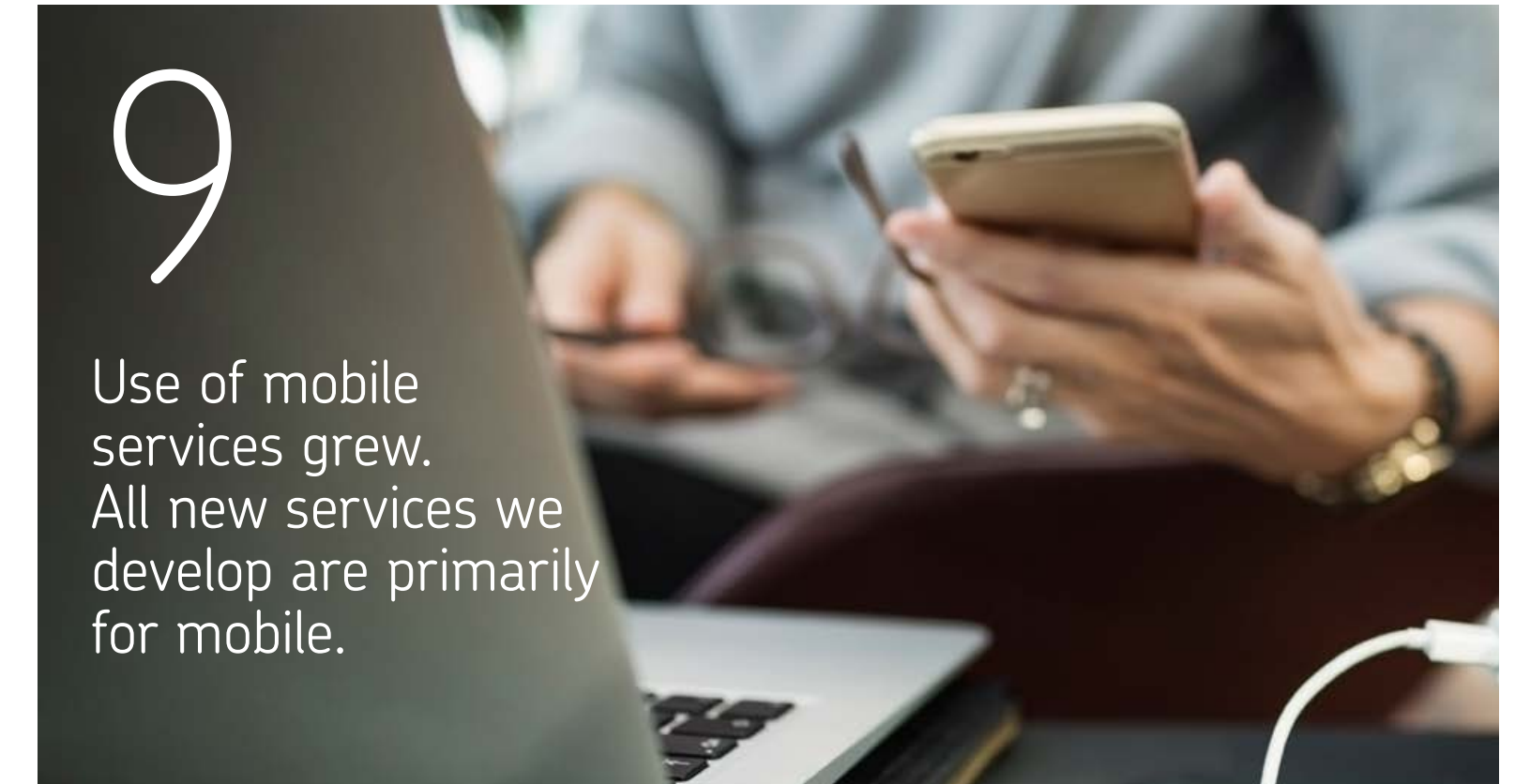
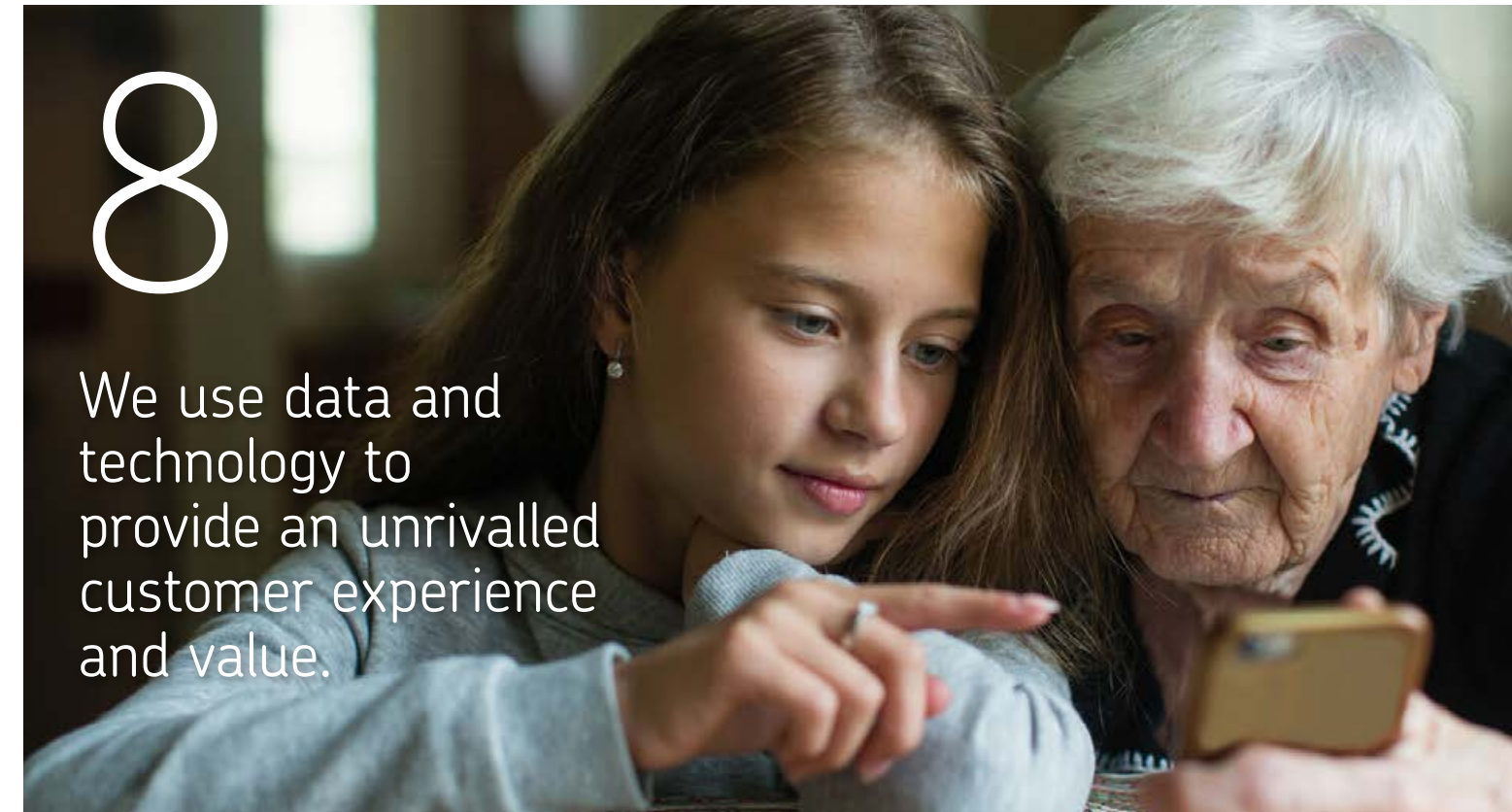


# OP Financial Group's Data Balance Sheet 2021



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OP Financial Group’s Data Balance Sheet casts light on the importance of data to OP Financial Group, its stakeholders and business environment

The Data Balance Sheet describes the management, use and protection of data to create value for customers, OP Financial Group and the business environment. It also presents the key goals, operating models and results of OP Financial Group’s data governance and use, and the main principles and practices governing the secure processing and use of data.

#### Extent of reporting and restrictions

The report covers key events within OP Financial Group’s digital services in 2021. It is the fourth Data Balance Sheet to be published. The Data Balance Sheet 2021 is more concise than those of previous years, describing key events related to data management and value creation. It is part of OP Financial Group’s annual review, which can be read at [vuosi.op.fi/en/2021](https://vuosi.op.fi/en/2021). OP Financial Group’s previous data balance sheets can be found [here](#).

OP Financial Group’s Reports 2021:  
[OP Financial Group’s Year 2021 Report by the Board of Directors and Financial Statements](#)  
[Capital Adequacy and Risk Management Report](#)  
[Corporate Governance Statement](#)  
[Remuneration Report for Governing Bodies](#)  
[Remuneration Policy for Governing Bodies](#)

# OP Financial Group's digital year 2021

3.6

million Retail Banking and Corporate Banking customers



52

Digital channels NPS (-2)



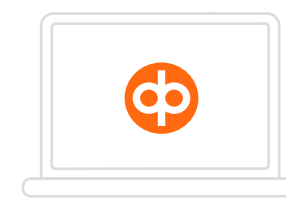
40.1

million logins in OP-mobile per month on average (+19%)



4.4

million logins in the op.fi online bank per month on average (-23%)



92

thousand home loan applications processed automatically (+61%)



82%

resolution rate for Opotti chatbot messages (+2% pps)



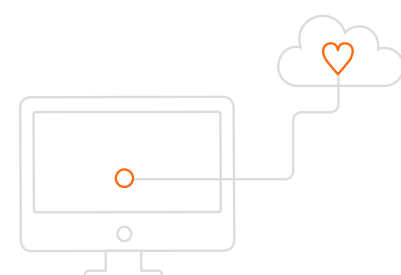
885

terabytes of data is held in OP Financial Group's analytical databases (+16%)



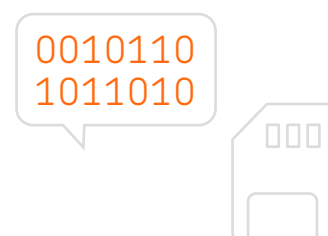
63

APIs for external data customers and partners (+15 APIs)



3,200

terabytes of real-time data transferred through external APIs (+468%)



635

employees working on data development and refinement in OP Financial Group's central cooperative (+5%)



390

customer requests for access to personal data processed (-14%)



620

thousand customer details maintained through the My Profile service



# Responsible use of data through time

OP Financial Group has been promoting the prosperity, security and wellbeing of its customers and Finnish society for 120 years. We know our customers and business environment – data derived from customer relationships is capital, which we use to create value for our customers and operations.

Digital interaction and the data collected from it are increasing as the use of digital services grows. Improving the quality and usability of data is enabling us to develop the bank and insurance services of the future, and to better understand our customers. We are progressively making more use of artificial intelligence and robotics for data processing: this enables faster interaction for our customers and improves our services.

Trust is growing in importance, as the scale and goals of data use become more ambitious. Responsibility is one of our values, committing us to the responsible and ethical use of our data capital. As a matter of principle, our actions and choices are guided by customers' interests whenever we use data derived from customer relationships. As well as our customers and other stakeholders, regulations require us to use data responsibly and transparently.

In addition to offering new business opportunities, technology poses threats to digital security. From the perspective of our customers, business activities and the functioning of Finnish society in general, it is important that we protect our customers and operations, and anticipate and prepare for — and hold drills in case of — cyber threats.

OP Financial Group will turn 120 years old this year. We have been a trustworthy partner, building Finnish society alongside our customers for over a century. Understanding changing life situations, and the business activities of companies of all sizes, has always been a core element of our activities. We want to create a Finnish business environment in which data is used securely, innovatively and responsibly.

**Timo Ritakallio**  
President and Group CEO of OP Financial Group



”

Responsibility is one of our values, committing us to the responsible and ethical use of our data capital.

# Data creates value for customers

During the pandemic, digitalisation took huge leaps forward in all walks of life. Remote interaction disrupted daily life and transformed work and work communities. The uptake of digital services, which provided a solution to many needs, grew dramatically.

This change has had a clear impact on OP Financial Group. Use of digital service channels continued its strong upward trajectory in 2021, and the related expectations grew, while the use of data and analytics in customer experience creation and service provision accelerated, continuing to mature. One of the keys to our success is our long-term development of data expertise and technology, combined with our digital capital which is growing from year to year.

We primarily manage and use data to benefit our customers. We create value from data when we can use it to provide the best possible customer experience while improving the productivity, efficiency and overall quality of our banking and insurance business activities. Responsibility and ethics are our watchwords in our decisions and actions concerning data and its use.

OP Financial Group needs a range of capabilities in order to use data for the benefit of customers and

the business environment: key examples include data governance, analytics and applications, technology, cybersecurity and data protection. We take a holistic, mutually supportive approach to developing such capabilities. The core of all this is data of the highest possible quality, and the refinement and value creation it enables within our businesses.

Another key issue — besides our value creation and risk management performance — is the stakeholder trust we create in our management, protection and use of data. Our processing and utilisation of customers' data depend on the trust they place in us. We regard presenting our goals and actions in our Data Balance Sheet as part of corporate responsibility and a proactive way of meeting stakeholders' growing expectations.

**Sameli Mäenpää**  
Chief Data Officer



”

We primarily manage and use data to benefit our customers.

# Data is central to OP Financial Group

We manage and utilise data to create sustainable value for customers, the business environment and the Group. OP Financial Group’s customer-centric banking and insurance services are based on its data capital and the productive, secure and responsible use of such capital. Technology and analytical skills are key enablers of value creation.

OP Financial Group’s data management seeks to create value for customers, secure high-quality and efficient operations, and foster profitable growth. Business activities and data combine with technology to form our overall architecture for the agile and reliable development and production of digital services and applications. Shared data capital is the starting point of our business-centric management and use of data.

We manage data and data utilisation holistically, in line with OP Financial Group’s strategy. Data management and technology-related decisions are based on the strategic goals and operational needs of our business activities. Success is enabled by Group-wide development and technologies, finances, and risk management functions and centres of excellence. Development of competencies and

capabilities is the key element of all this. In 2021, 635 employees worked on data development and refinement tasks in OP Financial Group’s central cooperative, 5 percent more than in 2020.

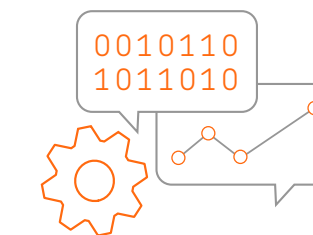
Data provides opportunities for continuously improving profitability and efficiency, and the customer experience and services. We base new value-adding services on the use of data and analytics. Digitalisation and automation reduce routine work, streamline processes and increase operational integrity.

In addition, data management is a form of risk management at Group level. Strong data governance promotes risk management and has a direct impact on OP Financial Group’s overall security and resilience.

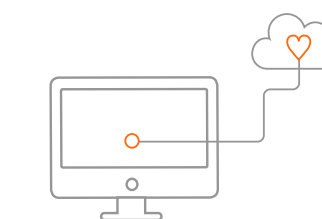
The cornerstones of OP Financial Group’s data strategy



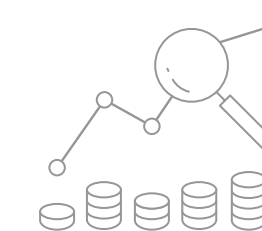
Ownership of data by business activities



Integration of business activities, data and technology



Shared data foundation

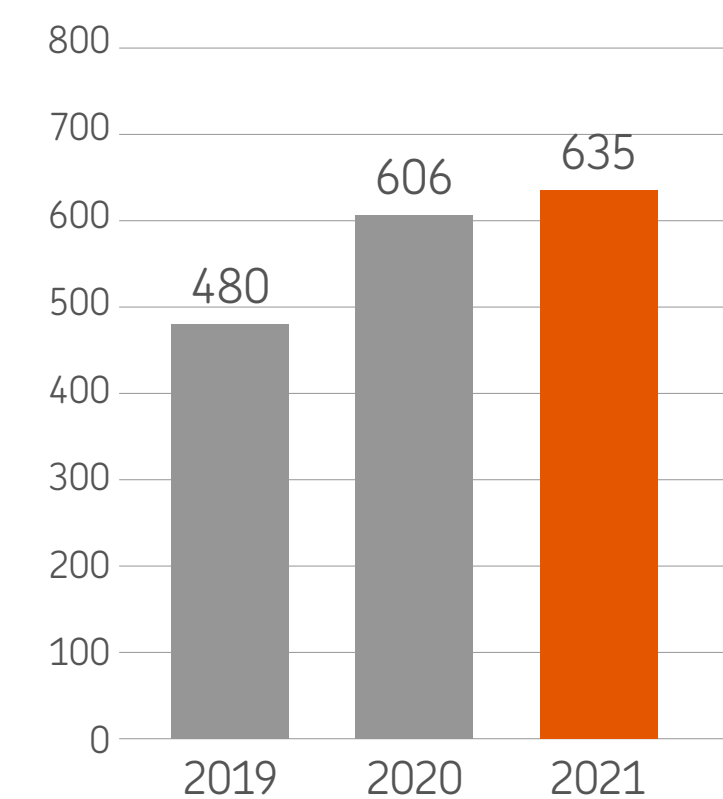


Profitability and efficiency improvements



Cybersecurity and data protection

Employees working on data development and refinement tasks in OP Financial Group’s central cooperative



# Data as part of OP Financial Group's value creation model

OP Financial Group's value creation model depicts what kinds of resources and capital the Group uses to implement its mission and strategy, and what kinds of outputs and impacts its activities have.

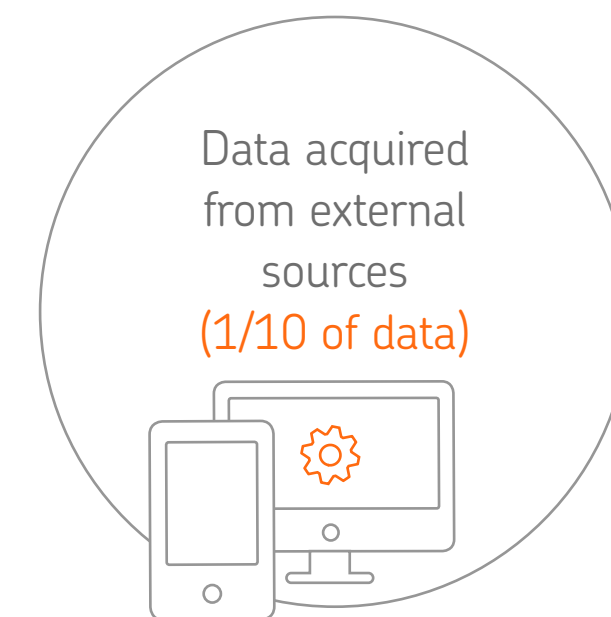
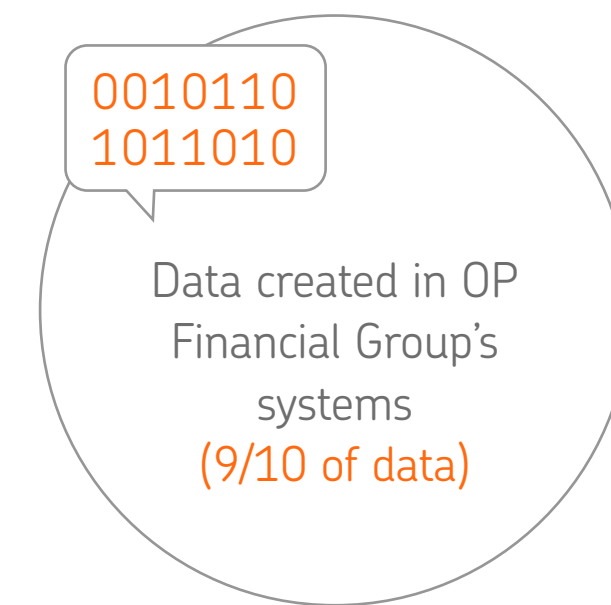
Responsible and intelligent use of high-quality data capital, combined with systems and services that support a great customer experience, constitute the essential sources of value creation at OP Financial Group.

Besides data capital, other sources of value creation include a satisfied, motivated and skilled personnel, a solid capital base and economic capital, cooperative values, trust and reputation.

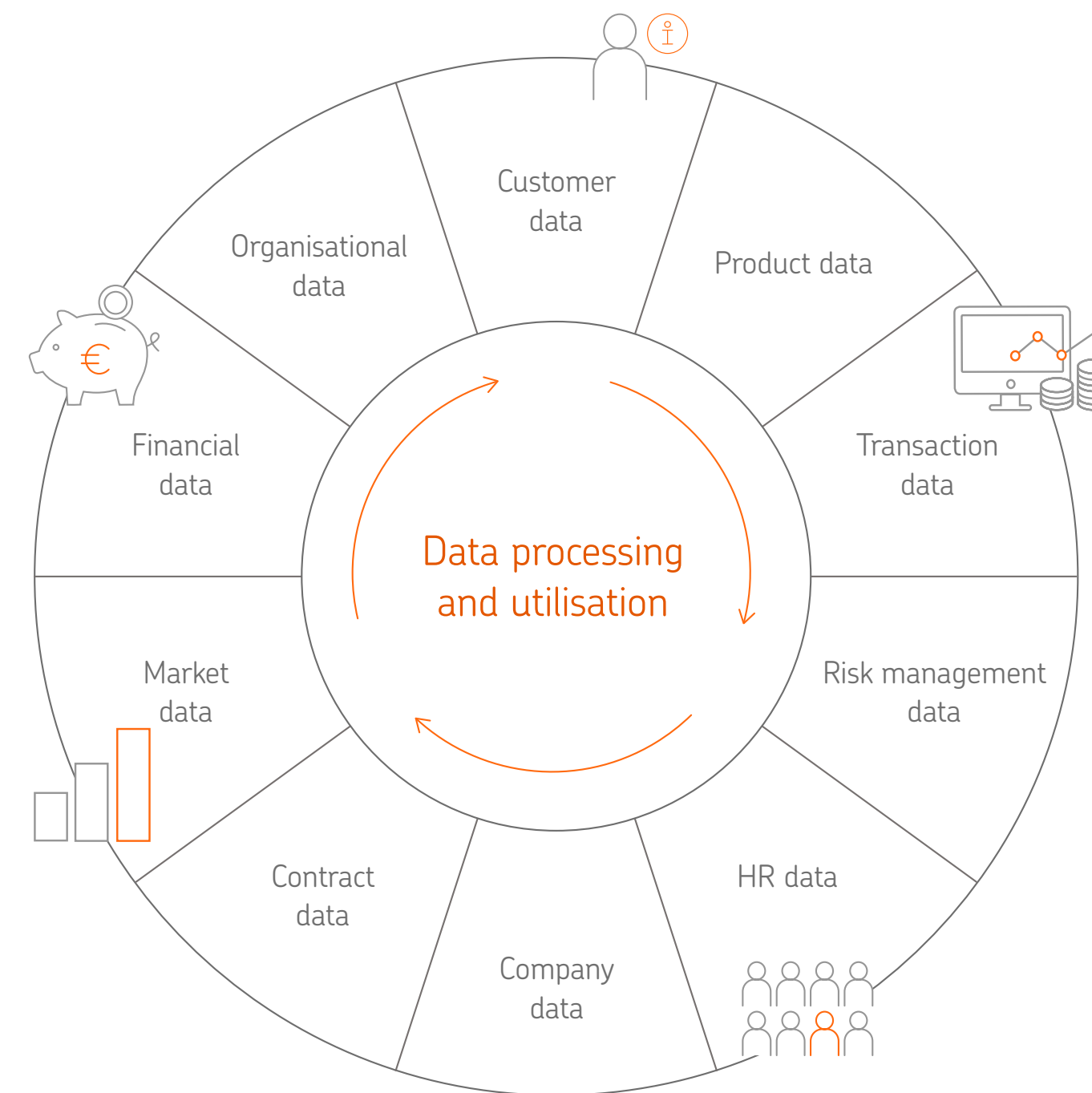
OP Financial Group wants to use its data capital to create new, sustainable and unique value for its customers, the Group and its operating environment.

OP Financial Group's annual review 2021 includes an overall description of the Group's value creation model, see [vuosi.op.fi/en/2021](https://vuosi.op.fi/en/2021).

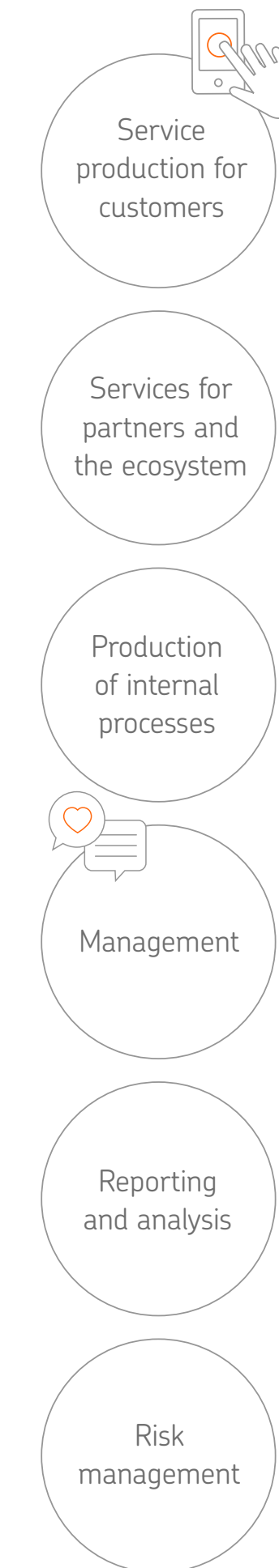
## Data capital



## Data refinement



## Analytics and applications



## Benefits



# Data creates value for customers

We use data and technology to provide an unrivalled customer experience and value throughout OP Financial Group. In 2021, we had a particular focus on developing services that make daily life easier for personal and corporate customers. Businesses made even more use of data and analytics to create a good customer experience.

The financial sector is one of the world's most data-centric industries. At OP Financial Group, data capital is chiefly used to provide high-quality and truly useful banking and insurance services for personal and corporate customers. Based on comprehensive customer insight, our personal and digital services complement each other via multiple channels. Our Net Promoter Score (NPS) for digital channels remained high.





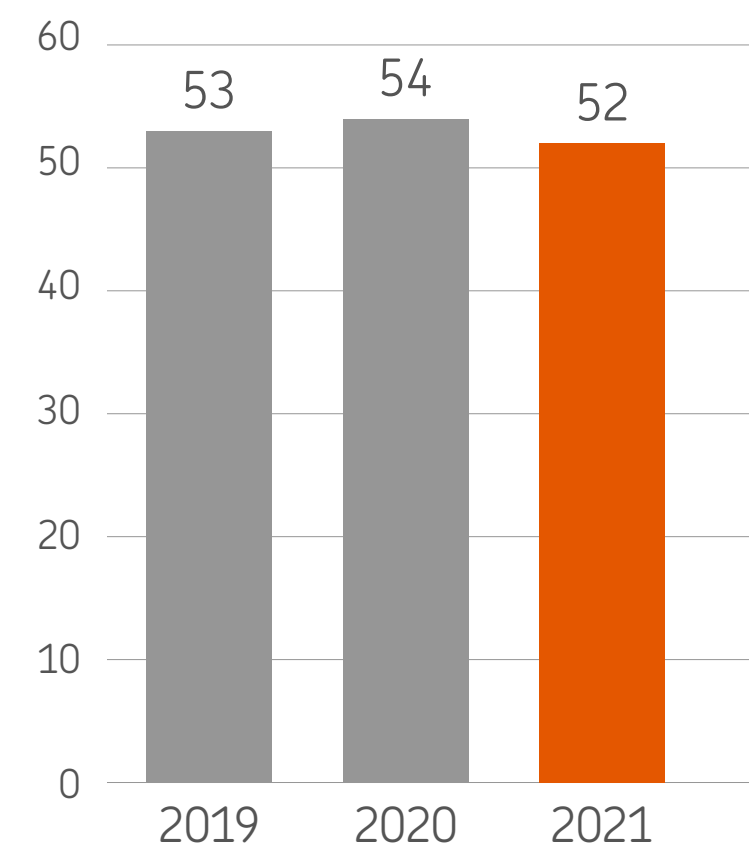
### Use of our mobile services channel grew, digitalisation of services progressed

OP Financial Group continued its development of digital channels in 2021. Customers appreciate the opportunity to handle their banking and insurance independently of place and time. Accessibility, convenience and usefulness are key principles. New services are being developed at OP Financial Group, primarily for mobile channels.

User numbers of OP-mobile and OP Business mobile grew further in 2021. Logins to mobile services increased by a fifth compared to the previous year. Use of mobile devices is being encouraged by their convenience and portability, as falling numbers of non-mobile op.fi logins demonstrate.

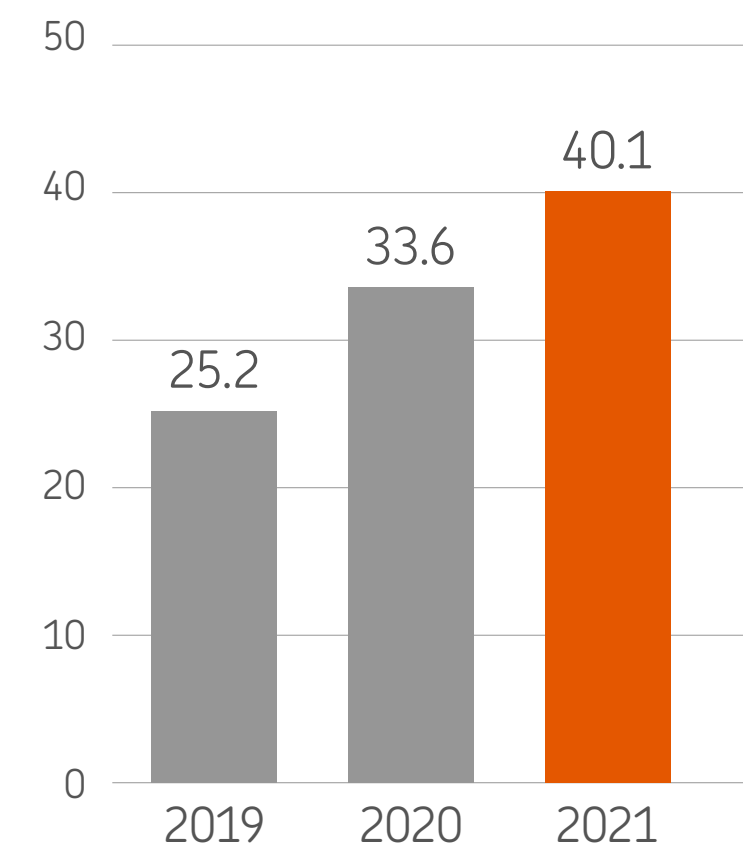
OP Financial Group released new, well-received digital services for personal and corporate customers in 2021. Traditional, time-consuming manual customer onboarding for banking services was automated: it is now possible to become an OP customer digitally, independent of location and time. OP Financing enables centralised credit management for personal and corporate customers, whereas OP Lasku (Buy with a bill) is a convenient service for the payment and financing of fairly large online purchases.

### Digital channels NPS<sup>1</sup>



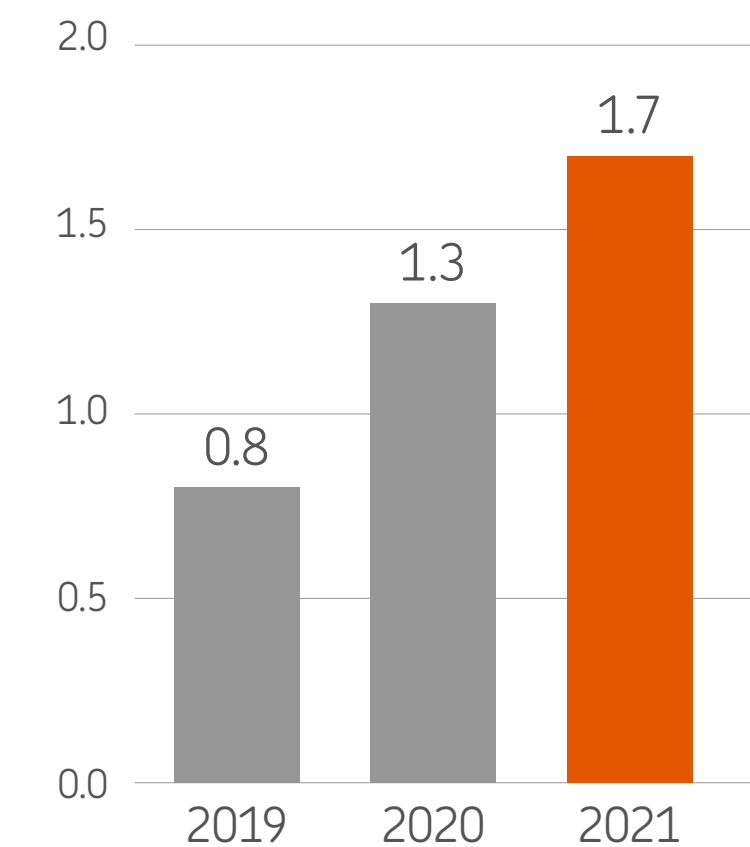
### Use of OP-mobile

million logins per month on average



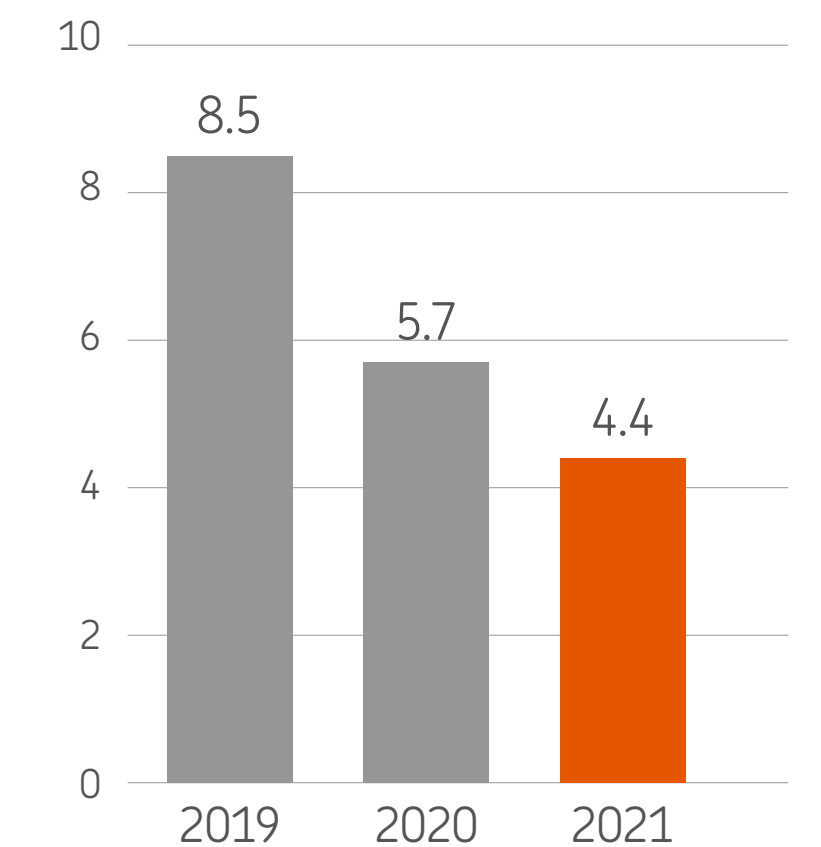
### Use of OP Business mobile

million logins per month on average



### Use of op.fi

million logins per month on average



<sup>1</sup> Net Promoter Score (NPS) measures the likelihood that a user will recommend the service, on a scale of 0 to 10. The index is calculated by subtracting the percentage of detractors (scores 0–6) from the percentage of promoters (scores 9–10). Customers are asked to give an NPS for OP Financial Group’s digital channels as they log out.

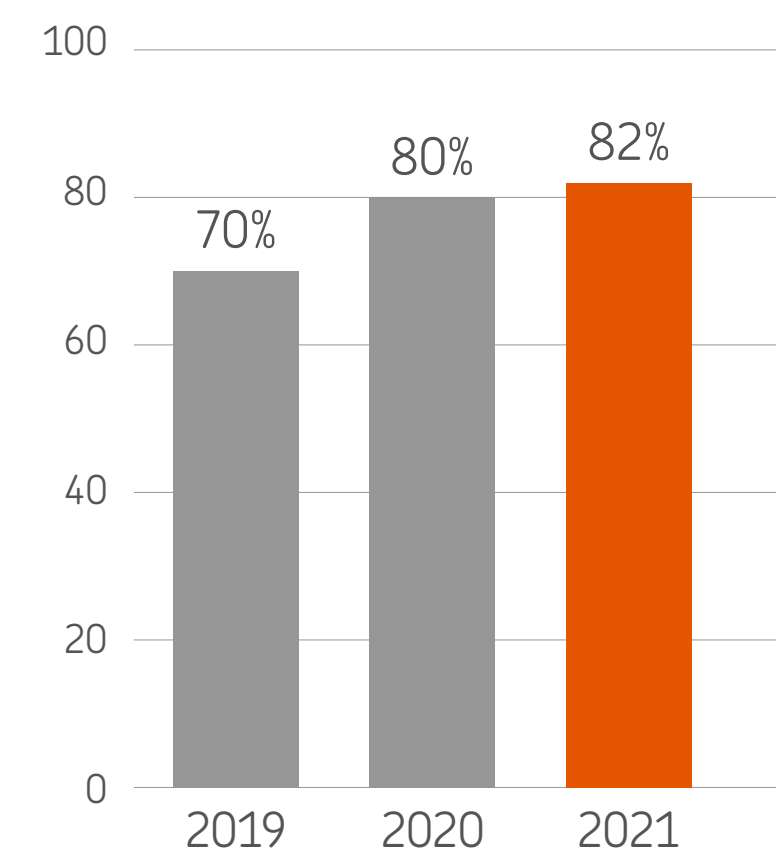
Payment by mobile channel became more common. In 2021, the number of Siirto payment users on OP's mobile channels passed 1 million. The Apple Pay service was introduced for easier mobile payment.

### Data and analytics enable the best possible customer experience

Use of data and analytics in services and background processes enables smart self-service, while assisting customer advisors and other personnel in their work. During the year, OP Financial Group improved the ability of its digital assistants and chatbots to meet customer needs. This training and active development of AI Chatbots has markedly improved the precision of their responses, as user expectations have grown.

In 2021, via OP-mobile, we were the first bank in Finland to provide customers with a digital assistant service for handling everyday financial matters themselves.

### Resolution rate of Opotti chatbot messages



### AI and automation are in daily use

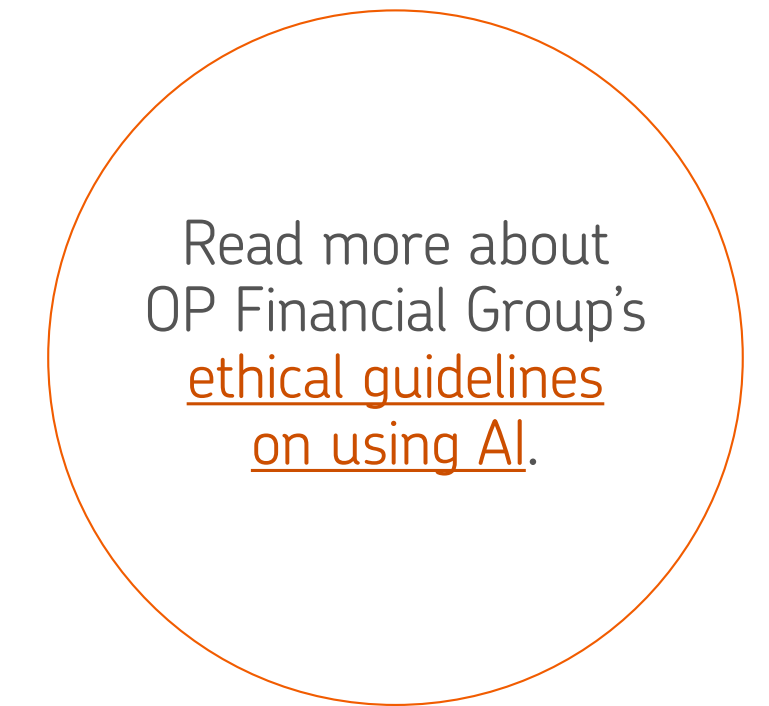
OP Financial Group uses software robotics and AI applications in several of its digital services. These provide customers with added value and increase the Group's operational efficiency and improve its risk management. These features are increasingly used to provide services that benefit the customer, and to improve the customer experience and customer service.

Customers' trust in responsible and ethical use of artificial intelligence is a key factor in its application. Those who develop and utilise AI are responsible for exercising control over it: priorities include transparent AI-based decision-making subject to responsible controls, and predictable functioning, protection against manipulation, and division of responsibilities for AI-based decisions.

OP Financial Group was the first company in Finland to publish a set of Ethical Principles of Artificial Intelligence, to help ensure its responsible use of AI.

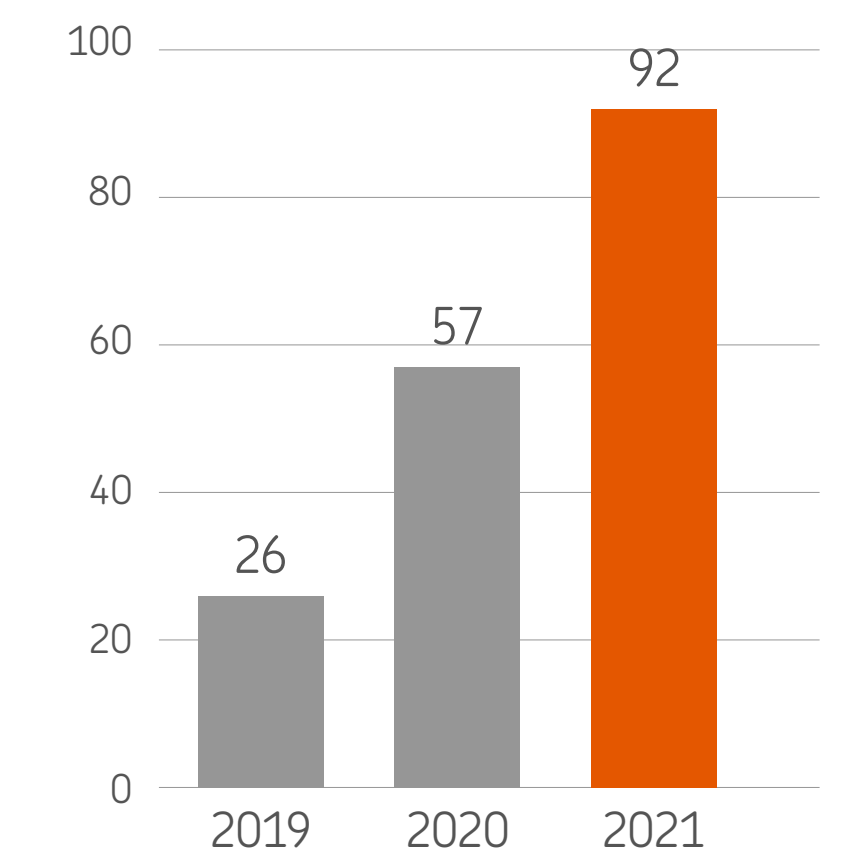
#### Ethic guidelines on the use of artificial intelligence

- People first
- Transparency and openness
- Impact evaluation
- Ownership
- Privacy protection



### Automatic processing of home loan applications

Home loan applications processed by the Credit Engine, 1,000 applications



## Responsibility guides our use of data capital

The responsible collection and use of data are a key aspect of corporate responsibility in OP Financial Group. Benefiting the customer is our priority when utilising data. We have gained our customers' confidence through responsible and diligent operating models, and transparency in collecting, storing and using data. OP Financial Group communicates transparently about its collection, processing and use of customer data.

Our marketing and sales respect the limitations of customer data utilisation as described in Privacy Notices, while observing good marketing practices and regulatory compliance.

## Case: OP Lasku (Buy with a bill) is a flexible way to pay in online stores

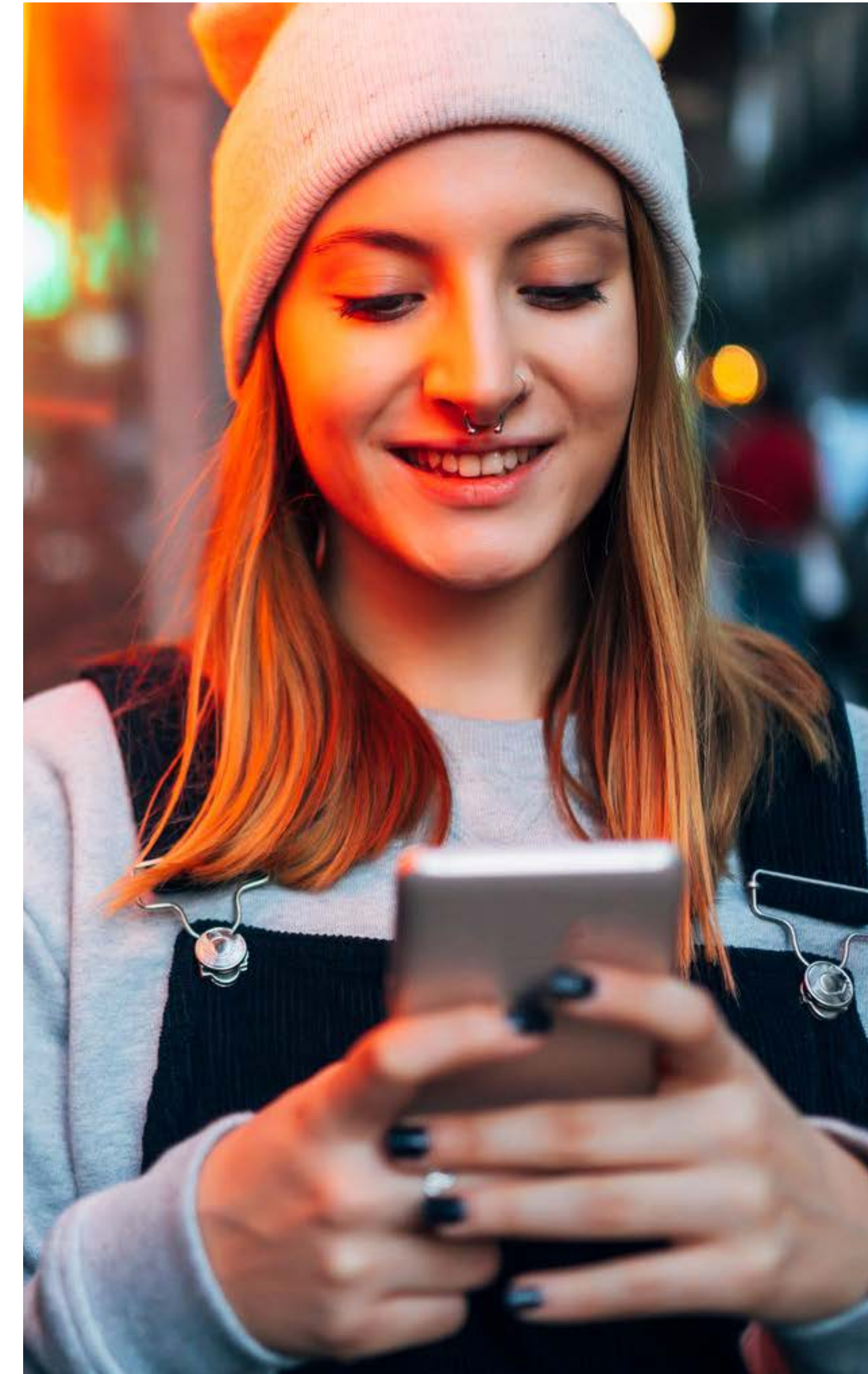
The revamped OP Lasku has introduced a more flexible payment method for online stores. Thanks to real-time analytics and automation, customers now receive a credit decision at the online store's payment stage.

The new version of OP Lasku provides an online store payment method for customers of any Finnish bank, which can be used during the store's payment step, and for further purchases (without making new applications) within the credit limit granted.

For customers, this new payment method — which combines a bill, payment in instalments, and continuously available credit — is easy and flexible to use. Convenience is also important for the online store, since a difficult payment method can lead to poor customer experiences, or drive customers into the arms

of competitors. Due to a real-time, automated credit appraisal, the customer receives a credit decision immediately, with no need for separate credit applications or checks.

OP Financial Group uses data and analytics as drivers of easy customer onboarding and credit risk management. Credit decisions are based on an overall appraisal of the customer's repayment capacity, derived from OP's internal data and details provided by the customer. The online store, its customers and OP Financial Group benefit from the service's convenience and risk management.





## Case: Digital customer onboarding made independent of time and location

The digital customer onboarding service makes life easier for customers and the bank. Onboarding numbers have grown since the service's introduction.

People can become customers of OP Financial Group independent of time and location, in a 15-minute process including background checks and signatures.

Since customer onboarding requires strong identity verification and risk assessment, a great deal happens behind the scenes. Background checks are made against official sources and OP Financial Group's customer database. Data quality is improved by a fully digital process, which reduces the risk of human error.

Automation saves time and work for the customer and OP Financial Group's employees. Onboarding previously required around half an hour of employee time to go through the different steps with the customer, and time was needed for an appointment at a branch office.

OP Financial Group aims to automate all aspects of initiating the daily services package, which includes a current account, OP service user identifiers, payment instruments and owner-customer membership. Customer onboarding and opening of an account were automated during the first stage in 2021. Other aspects will be automated in stages from 2022 onwards.

The core technology used for digital customer onboarding, and the resulting experiences, provide opportunities regarding other OP Financial Group products and services. Customers will be able to use a growing number of products, provided by OP Financial Group's businesses, flexibly and at their own convenience on a self-service basis.

## Case: Pohjola Insurance's enhancement of its core systems turns data and analytics into a service

Pohjola Insurance handles around 800,000 insurance events each year in processes involving a growing amount of data, automation and analytics. A new data and analytics infrastructure was introduced during the upgrading of the core system in 2021.

The new infrastructure will enable the development of novel products and services, and new efficiency improvements, in OP's insurance business. The core architecture's openness and flexibility, continuously developing analytics and robotics applications, and real-time data flows will provide new opportunities for insurance processes, the creation of customer and business insights, and risk management.

In the renewed system, data and analytics will form a continuous service, productised in-house, for the insurance business. It will also lead to strong growth in insurance event data collection and processing capacity. Real-time

data flows and AI capabilities, such as machine learning, will take the data intensiveness of insurance processes to a new level.

The revamp has provided an infrastructure best equipped to stand the test of time. This will enable the development of more advanced business and risk management applications, and insurance products and services. Apps could be added to the environment right away: revised statutory workers' compensation insurance processes were the first to be added.

## Case: Managing consumer finance from a single location

This new online service is a self-service channel for browsing and managing finance company agreements, and performing various procedures during the agreements' validity.

In spring 2021, OP launched a new online service making credit management easier for personal and corporate customers. The service allows customers to view their own asset finance and consumer finance agreements with just one login.

Personal customers can manage hire purchase financing or leasing payments for a car, partner dealership agreements, one-off loans or overdraft facilities from partner dealerships, or OP Lasku. They can check their account balance or current loan amount, apply for a repayment holiday or loan modification, or pay off their outstanding debt.

Authorised representatives of corporate customers can view the company's investment financing and leasing financing, hire purchase financing agreements (including the principal and other details), contractually financed items, and instalments. New, forthcoming features include functionality for payment processing, message encryption, early termination of agreements, and applying for and reporting of new financing.

# Data governance and quality

Maximisation of overall data quality and usability requires successful data governance in general. In 2021, our particular focus areas included expanding the use of the Data Quality Engine and updating the data governance model in general.

Data governance involves making sure that data is high quality and that its use is appropriate and well-managed. It is based on three subareas: data quality, the availability and usability of data, and its confidentiality and privacy. The importance of cross-Group data governance frameworks is being highlighted as needs for data steadily grow.

OP Financial Group revised its data governance guidelines in 2021. They bring together data governance principles and policies, procedure guides, practical application guides, operating instructions, and the supporting guidelines and standards. This fosters the management of data and its life cycle, which improves value creation, efficiency and reliability, and strengthens the basis for successful risk management in accordance with OP Financial Group's data and ICT strategies.

In terms of data capital management, the renewed data governance model highlights ownership by OP's businesses. OP Financial Group does not value data for its own sake, but for its actual or potential business uses.

## Business-centric data governance

OP Financial Group's data governance model includes two key roles: data owner and data steward. Data owners are businesses' best experts in the use of data in their area of responsibility. They make sure that data is developed and used in accordance with agreed policy decisions, rules and legislation, and that its quality meets its intended purpose.

Data owners cooperate with data stewards, who have detailed knowledge of the characteristics of

Elements of data governance



data held in systems, and ensure that it is in good order. Data stewards enable data owners to make the most efficient and productive use of systems.

### Special requirements of the financial sector

In addition to the EU's General Data Protection Regulation, data governance in the financial sector is subject to the Capital Requirements Regulation (CRR), Solvency II directive, and the Banking Supervision standard BCBS 239 of the Basel Committee. OP Financial Group's data governance model ensures compliance with regulations and recommendations in various areas of data governance. In addition, OP Financial Group reports to the supervisory authorities regarding these areas.

### Data quality management

Every OP Financial Group employee is responsible for ensuring that data is high quality. Since data is continuously produced, used and refined within OP's business activities, data quality management is part of every workflow, phase and individual procedure. Separate Group-level data quality instructions

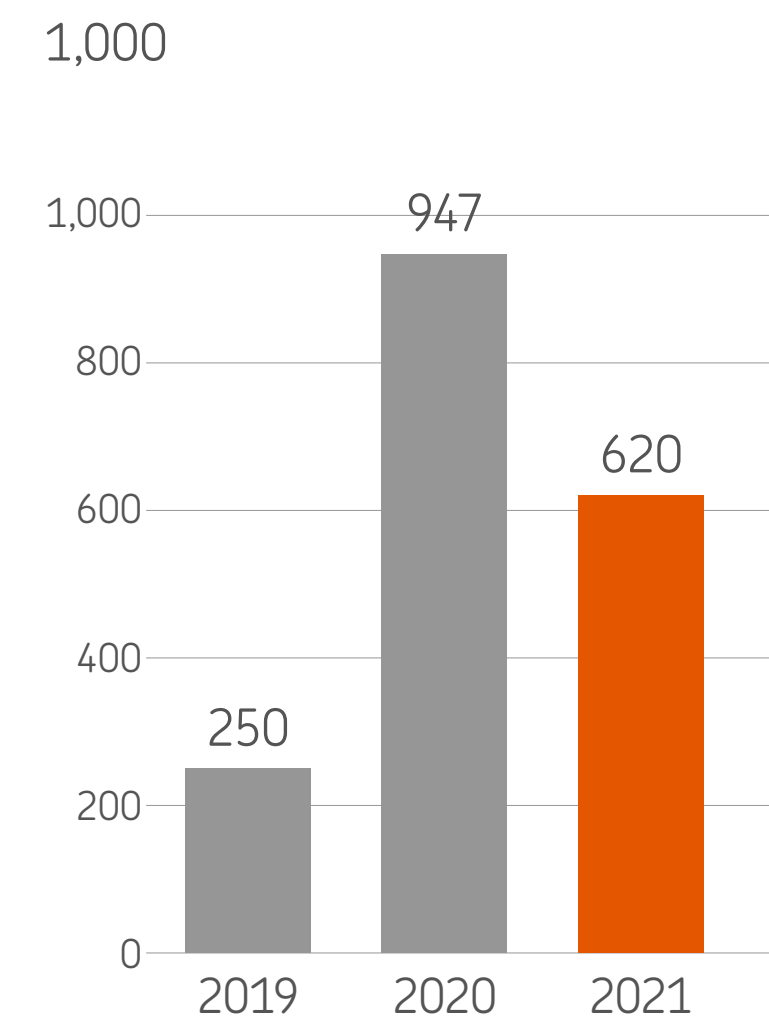
are available on matters such as development, operational activities, data quality reporting and purchasing.

Monitoring and continuous improvement of data quality are rule-based at OP. Use of the Data Quality Engine, which was introduced in 2020 and initially focused on the quality of data critical to managing credit risk, was extended for new purposes in both business activities and data warehousing in 2021. Rule-based, automated quality monitoring will be extended to all key data flows in phases.

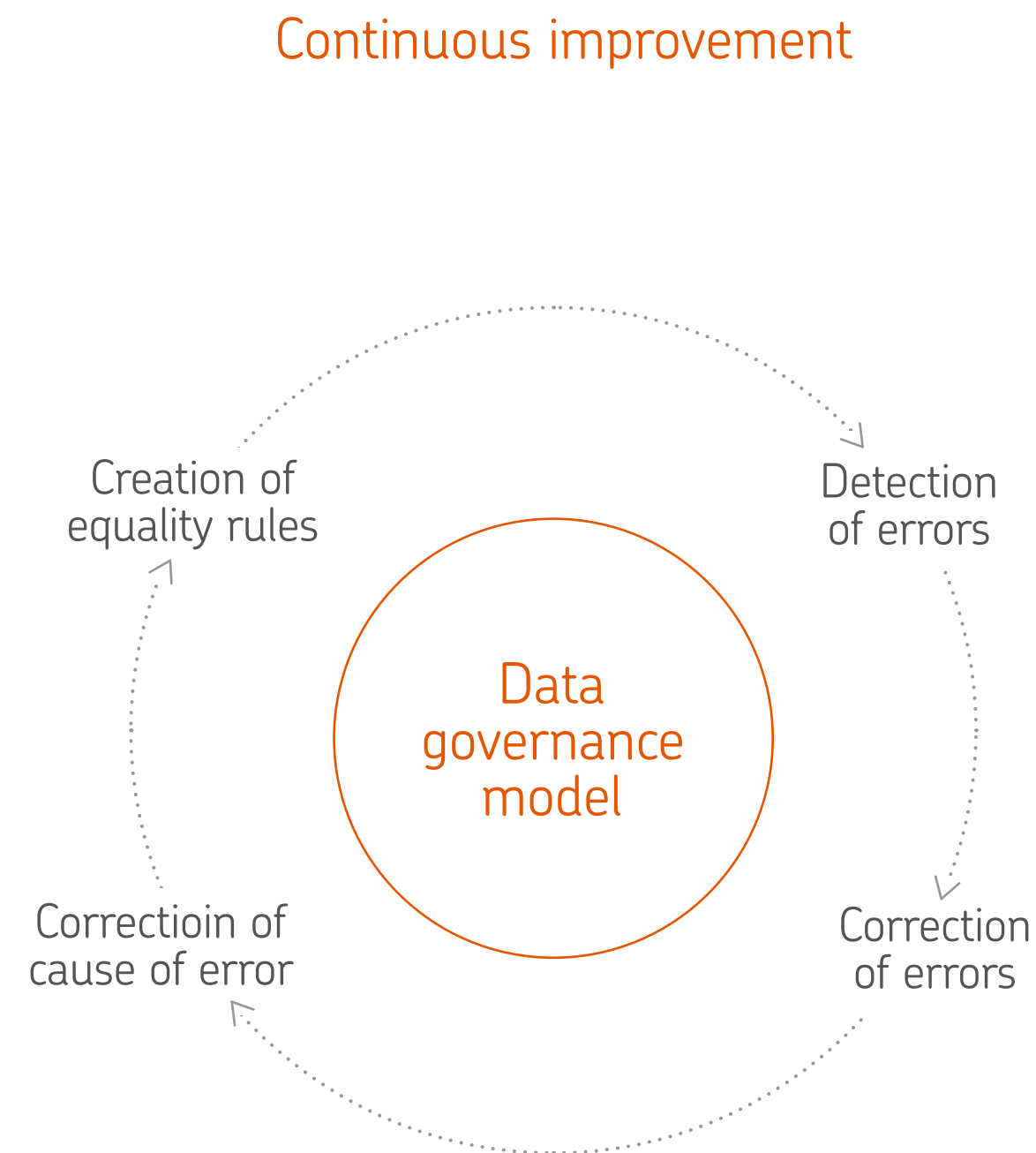
High data quality will improve decision-making, operational efficiency, the customer experience and regulatory compliance in OP Financial Group. Achieving a clear picture and continuous improvement of data quality are also key factors. Customers also have the opportunity to manage their own data with OP Financial Group.

Quality management is used to detect quality deviations and their business impacts, and to fix their root causes. The data quality correction process is a key element of quality management. We continuously develop our data quality practices and solutions for improving data quality.

Customer details maintained through the My Profile service



### Data quality management in OP Financial Group



### Quality assessment

|              |
|--------------|
| Completeness |
| Uniqueness   |
| Timeliness   |
| Compliance   |
| Accuracy     |
| Consistency  |
| Integrity    |
| Availability |

### OP Financial Group's data governance model

OP Financial Group ensures that its decision-making procedures on data are consistent within the roles and bodies specified in the data governance model.

| Level       | Tasks   | Roles and groups  |
|-------------|---|---|
| Strategic   | Strategic goals and targets   | President and Group Chief Executive Officer<br>Data Management Team<br>Chief Data Officer   |
| Tactical    | Development of data capital<br>Operational business control by data governance<br>Development and maintenance of data governance<br>Data quality management<br>Data architecture guidance | Chief Data Officer<br>Data governance working groups for specific data subject areas<br>Data owners<br>Data stewards<br>Data management office<br>Architecture guidance |
| Operational | Data processing in accordance with the data governance model  | Information maintainers   |



# Cybersecurity and data protection

We use strong methods and technologies to protect data, digital infrastructure and the personal data of customers and other stakeholders. Our cyber and data security measures were hugely successful in 2021. In our development activities, we focused on enhancing integrated cybersecurity and data security, in particular.

Data-related risk management covers the risks of OP Financial Group and customers as comprehensively as possible. OP continuously identifies and analyses risks and plans, and reports the related procedures in accordance with a Group-level data governance model and organisation, in line with regulatory requirements. Increasing use is being made of data and AI capabilities in risk management and the detection of attempted fraud.

## Integrated, shock-resistant cybersecurity

Protecting functions and customers from cyber threats is important to the entire financial sector and monetary system, as well as OP Financial Group. The operating model for coping with cyber threats is based on multi-layered capabilities protecting operations and data, and active monitoring of the cybersecurity environment. Operating mod-

els for threat-related preparation, protection, detection and deviation response are shared at Group level and applied across the organisation.

Enhancement of integrated cybersecurity and data security were highlighted in the development of cybersecurity in 2021. During the year, 20 specialists in cyber and data-protection began work in various business and development-related tribes. Specialists and developers work together from the planning stage onwards, to ensure that data security is realised. All new code, services and applications are tested at the development stage, before their release and use. As a result, the management and elimination of vulnerabilities has been further intensified.

## Drills

Cybersecurity drills were stepped up again. OP Financial Group practiced its responses to cyber

attacks internally and as joint drills. The key joint drill was the national Taisto 21 cybersecurity drill arranged by the Digital and Population Data Services Agency; several teams from OP Financial Group participated. Dozens of teams and hundreds of OP employees, who act as critical links in the cybersecurity chain, participate in drills on an annual basis.

OP Financial Group's cyber and data security activities were hugely successful in 2021. Analysis of successful defence against attacks and vulnerabilities has shown that OP Financial Group has good speed of reaction and strong preventative capabilities combining expertise, processes and technologies.

White hat hacker and Bug Bounty programmes were continued in order to identify vulnerabilities. Hackers who identify vulnerabilities are paid a fee under the Bug Bounty model. Development

”

Each OP Financial Group employee has been given the latest training and tools for identifying and reporting cyber threats. Instant reaction is an element of strong defence.

teams are informed of vulnerabilities and fix them immediately.

## Continuous improvement

OP Financial Group is continuously improving on its preparedness and ability to identify risks, deviations and new threats at the earliest possible stage. It is also active in financial sector collaborative forums, and works in close cooperation with the authorities.

The financing and insurance sector is committed to precautionary measures in case of emergency conditions, alongside the authorities and other business sectors. As a member of Finance Finland, OP Financial Group promotes cybersecurity and preparedness cooperation through the security of supply organisation, the National Cyber Security Centre of the Finnish Transport and Communications Agency Traficom, and the sector's European agencies.

### Realisation of data protection

Data protection is performed across OP Financial Group with the support of its policies, guidelines and the data protection organisation (Data Protection Centre of Excellence). Each business activity ensures that data protection is taken into account and realised in its own activities and development projects. Data protection control models cover businesses' development, procurement, marketing and service production processes.

Data protection is part of each OP employee's daily work. Joint data protection efforts reinforce OP Financial Group's comprehensive, sustainable and rapidly reacting data protection culture. Data protection is enacted and developed in networks and at all operational levels on the basis of the agile method. The data protection organisation, business activities, risk management and control engage in highly intensive cooperation.

### Training

The competencies, knowledge, skills and attitudes of each OP employee play a key role in ensuring that data protection and personal data are processed appropriately. OP's data protection communications and training have aimed to provide each

employee with the competencies needed in their duties.

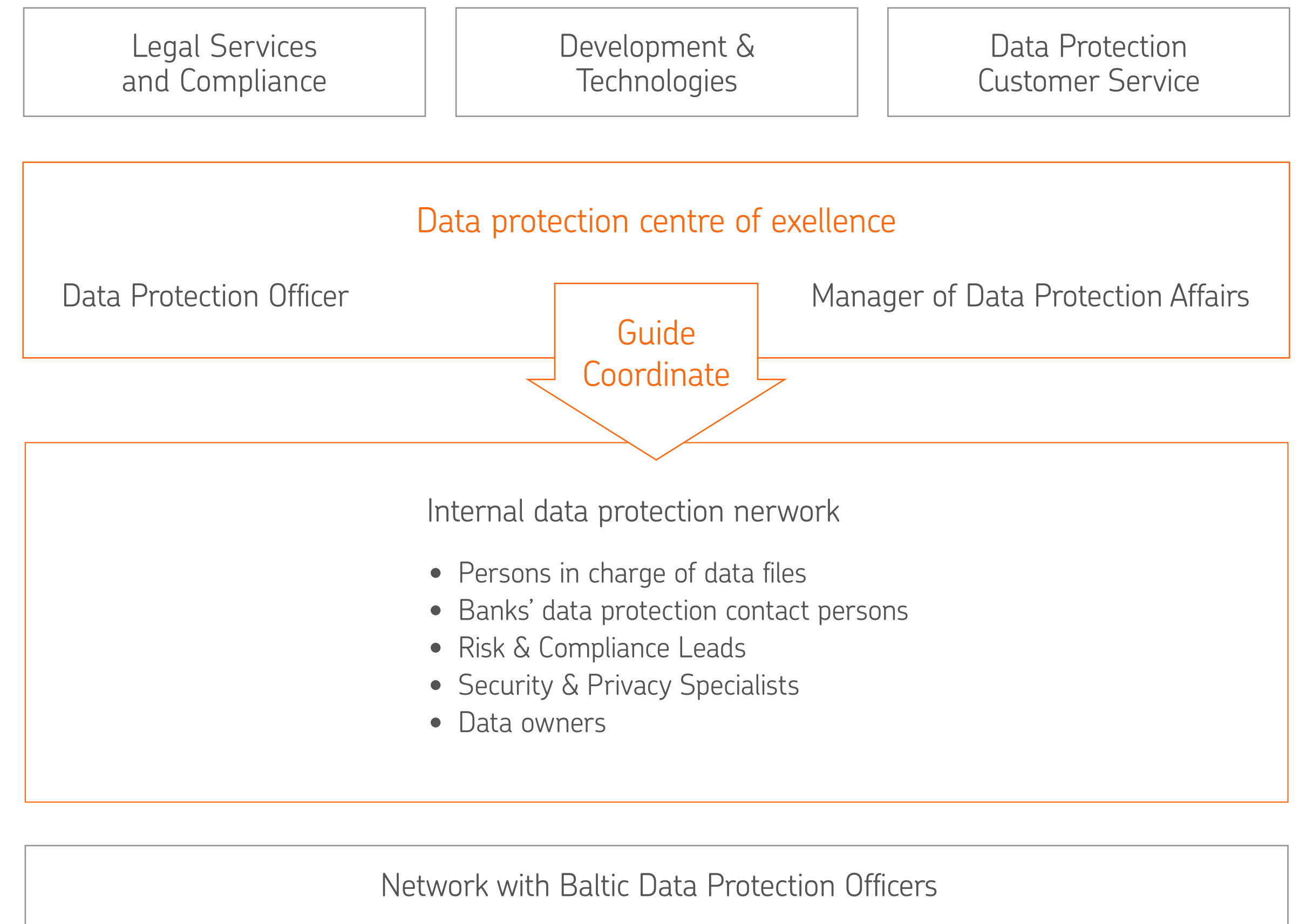
In 2021, an internal Data Protection Day was arranged at Group level, and various aspects of data protection were discussed in monthly meetings. Data protection training was reviewed and tailored for different duties. Tailored training sessions were arranged, particularly on the international transfer of and the latest official guidelines concerning personal data.

As well as training on data protection in general, employees have been offered customer service, business development, employment, analytics, financial intelligence, communications, marketing and sales-related data protection training. Employees can use a data protection service on the intranet, which provides operational and planning instructions for various purposes, as well as general information.

### Data protection organisation

OP Financial Group's data protection operating model combines cross-Group data protection management and capability development with efficient, operationally integrated data-protection processes.

The Data Protection Centre of Excellence provides data protection expert services and



coordinates personal data processing on a centralised basis for the Group. It also takes charge of interpreting data protection legislation, draws up guidelines and performs data Protection Impact Assessments (DPIAs) of personal data processing. The Centre of Excellence maintains an overview of the Group’s personal data processing and reports on data protection risks in accordance with the management system.

### Protection of customer data and the rights of data subjectst

OP Financial Group takes the protection of its customers’ data and data security seriously. Our operations meet local regulatory requirements in all countries in which we operate. We ensure the confidentiality, correctness and usability of data through careful data processing and by using several, mutually complementary protection methods.

Personal data is protected with the appropriate technical and organisational safeguards. Such methods include proactive and reactive risk management and the use of firewalls, encryption techniques, secure data centres, and access management and safety systems. We also make use of security planning, grant and supervise user rights in a controlled

manner, ensure the competencies of personnel who process personal data, and choose our subcontractors carefully.

OP Financial Group stores the data necessary for customer relationships throughout each relationship, after which the retention period depends on the type and use of data. OP complies with statutory obligations concerning the storage of data.

Customers can view open and transparent information on the processing and life cycle of personal data at OP Financial Group in the data protection section of the op.fi website. OP’s Customer Service has a separate team that handles customers’ requests and questions related to personal data processing. For further information, please go to [www.op.fi/dataprotection](http://www.op.fi/dataprotection).

### Data protection deviations

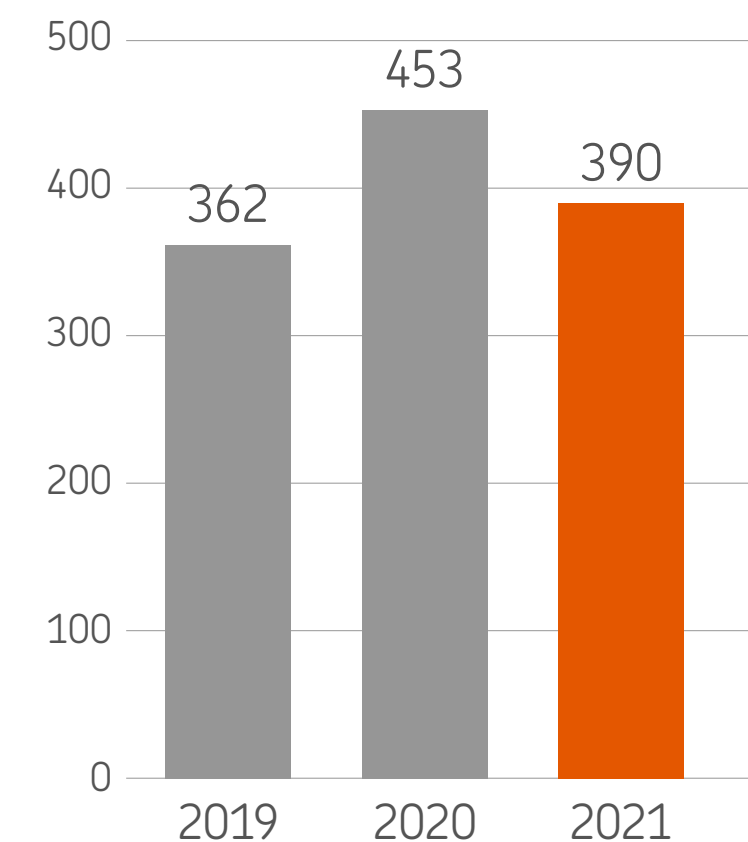
OP Financial Group reacts immediately to personal data breaches and other data protection deviations defined in legislation. All data security breaches are centrally processed. The need to notify the authorities, and the affected data subjects, of such breaches is also assessed immediately.

OP Financial Group received 16 substantiated customer complaints concerning the processing

of personal data or breaches of customer privacy in 2021. The total number was calculated by counting only one complaint wherever several complaints were filed concerning a single event (for example, a mailing error).

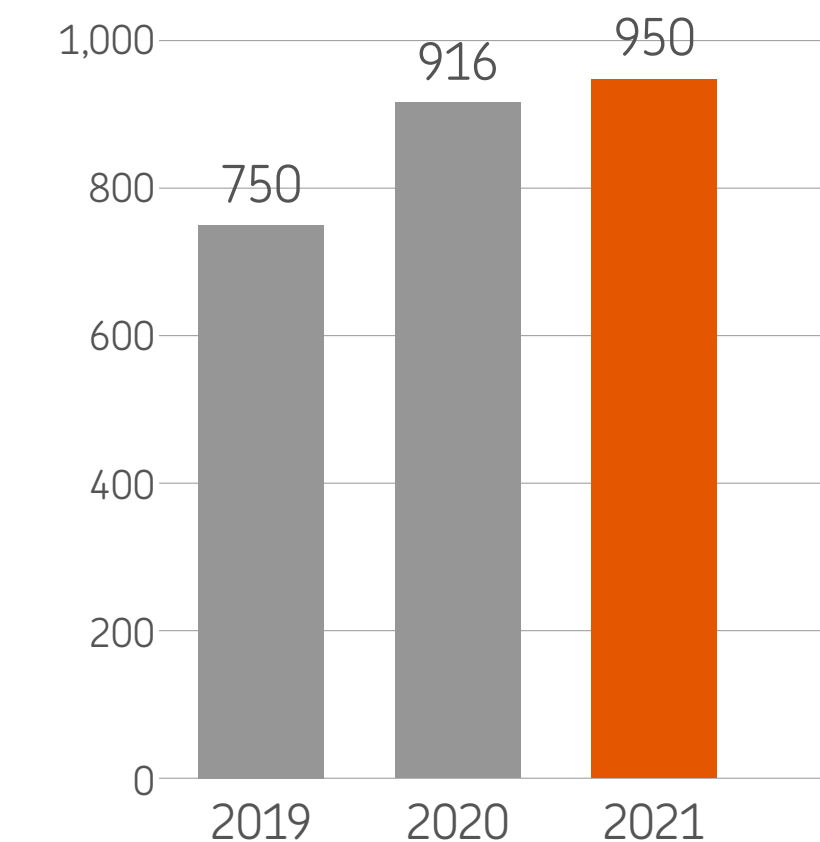
### Requests for access to own personal data

In financing and insurance operations



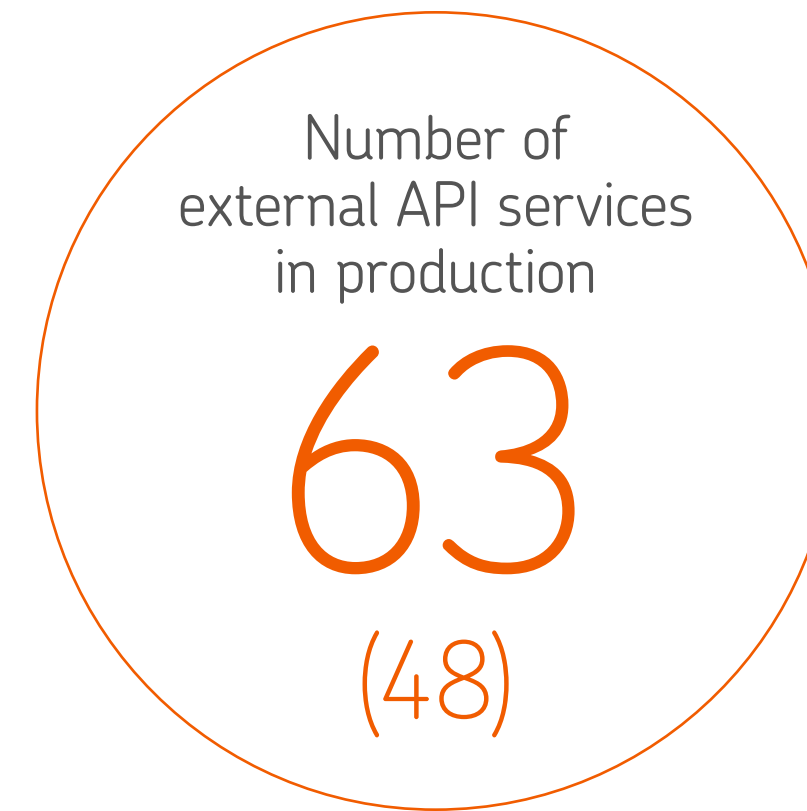
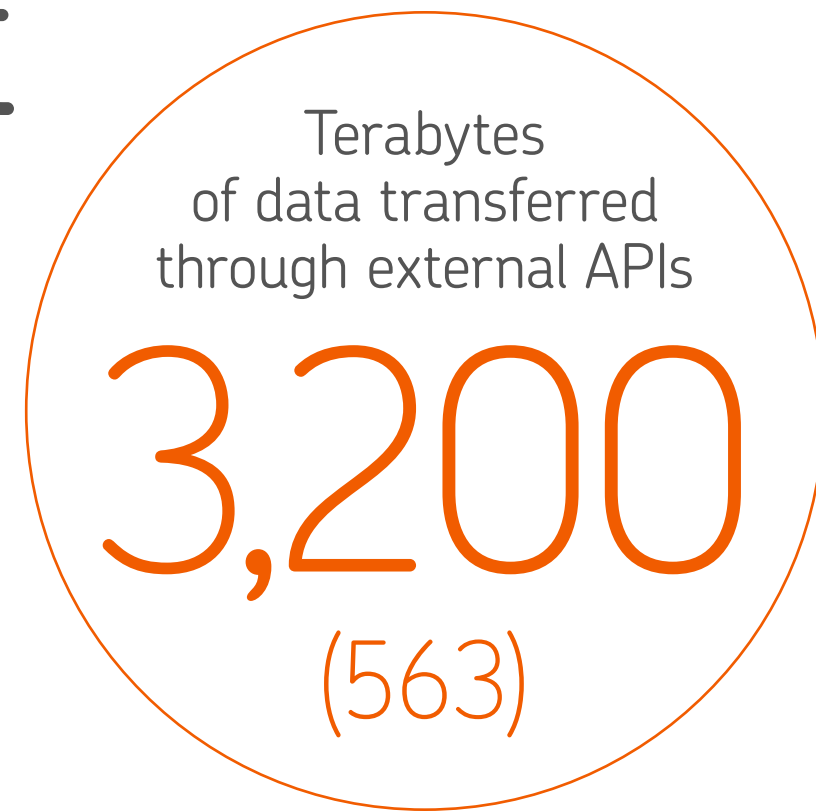
In 2021, OP Financial Group’s internal controls identified a total of 950 cases that can be classified as personal data breaches under the GDPR. This figure includes breaches attributable to human error that are unlikely to compromise the rights and freedoms of natural persons.

### Data security breaches identified in OP Financial Group

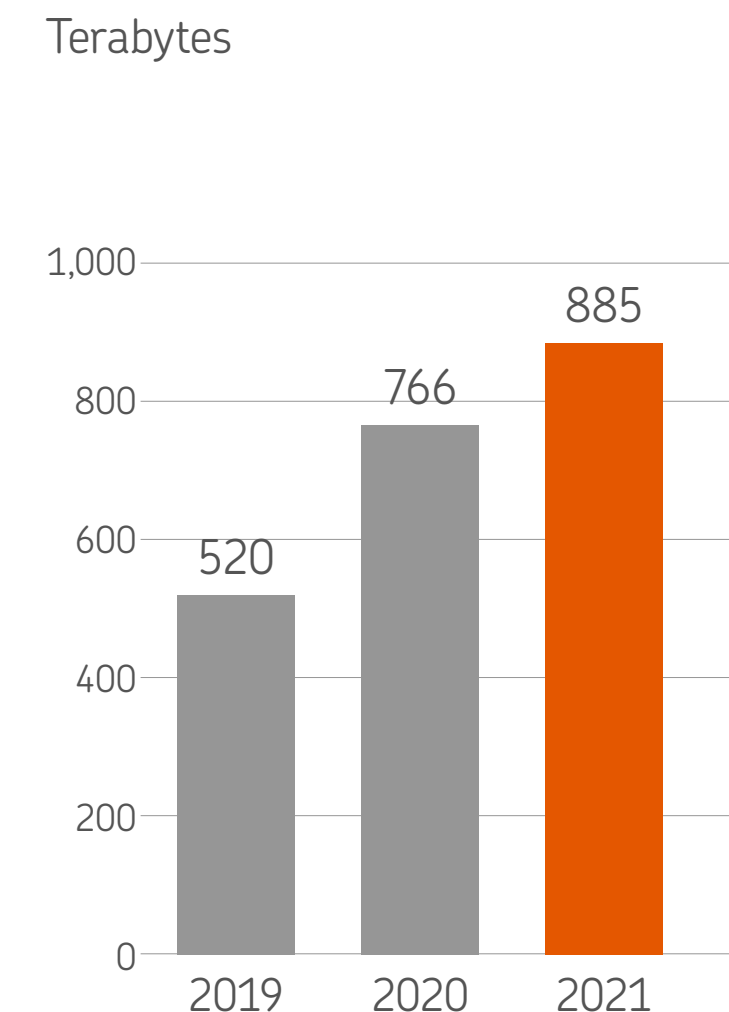


# Data management model and data balance sheet

Our data-based value creation is founded on the Group's data balance sheet and its balanced management. The data balance sheet depicts the data capital available to OP Financial Group and the digital services produced on its basis – data assets.



Amount of data in analytical databases

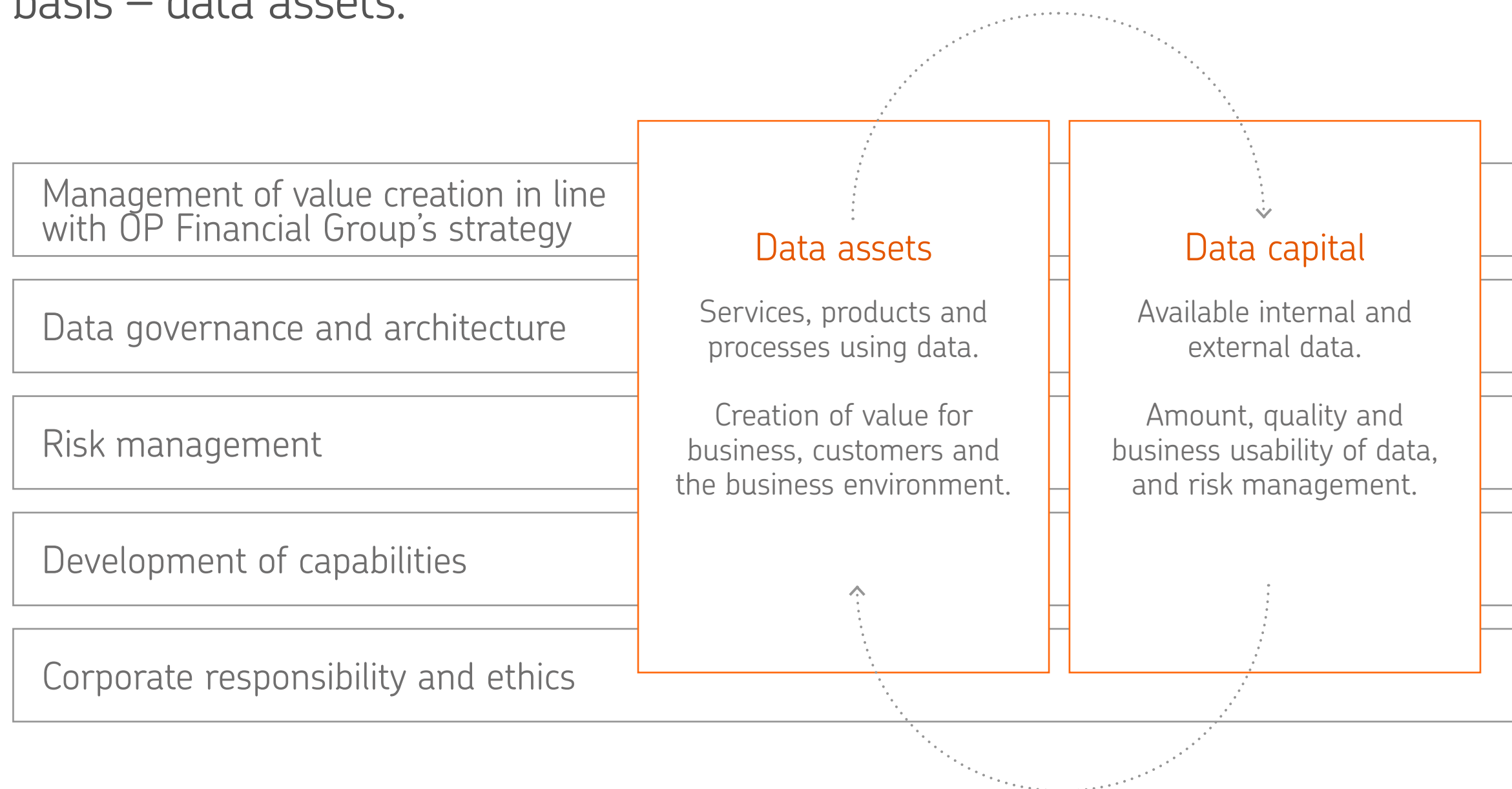


OP Financial Group's data balance sheet provides an overall view of data and data use, and supports strategic data management in line with the Group's strategy. It combines the management of data quantities, quality and life cycles related to data capital with the management of value creation within OP Financial Group's services, products and processes based on data assets. A balanced data balance sheet enables sustainable growth of value creation.

OP Financial Group's data balance sheet grew stronger in 2021. Our data capital grew markedly alongside the growing amount of data in analytical databases related to OP's businesses. The amount of data transferred via external interfaces multiplied, reflecting increasing use of internal and external data capital gathered via OP Financial Group's services. In terms of data assets, the number of users of digital services grew and new services were introduced.

The importance of API services grew further in 2021: the number of external APIs has increased, and the amount of data transferred via external interfaces has grown almost six-fold since the previous year. Real-time data is strongly growing in importance on OP Financial Group's data balance sheet.

Data utilisation, data governance and the management and development of capabilities are guided by OP Financial Group's data and ICT strategies. The principles of corporate responsibility and ethics are incorporated in all these areas. Use of artificial intelligence is also guided by our Ethical Principles of Artificial Intelligence.





**Data assets**

Data assets

**Data capital**

Data capital

|  |   |  |
|--|---|--|
| Definition                                   | <b>OP Financial Group's services, products and processes produced by means of data capital</b>  | <b>Proprietary and external data available to OP Financial Group</b>   |
| Objective                                    | Management of customer benefit and the business value of data   | Management of the quantity, quality and usability of data, and risk management   |
| Operating models                             | Customer and business processes   |  |
|  | Analysis, decision-making and risk management processes<br>Operating models for data protection and data security   | Data quality management and correction process<br>Data governance  |
| Services for customers<br>(examples)         | <b>General service channels</b><br>Online and mobile services<br>Customer service and counselling   |  |
|  | <b>Services for private customers</b><br>My profile<br>My financial balance<br>Digital home loan service<br>OP Lasku<br>OP Financing<br>OP Investment Partner<br>OP Multi-bank Service<br>Home price assessment tool<br>Product recommendation engine<br>Opotti chatbot<br>Viljo chatbot<br>Digital assistants<br>Digital customer onboarding   | <b>Own data capital</b><br><br>Counterparty data<br>Product data<br>Contract data<br>HR data<br>Organisational data<br>Internal reference data<br>Transaction data<br>Risk management data<br>Financial data<br>Document archives<br><br>OP Financial Group employees' human capital |
|  | <b>Services for corporate customers</b><br>OP Corporate Hub<br>API services<br>Real-time payment services<br>OP Multi-bank Service<br>OP Lasku<br>OP Financing  |  |
| Internal services                            | Marketing and sales services<br>360° customer insight services<br>Data quality engine<br>Market information services<br>Business intelligence services<br>Financial reporting services<br>People analytics services<br>Credit Engine<br>Data protection and data security services<br>Cybersecurity services<br>Home's collateral value determination service<br>Identification services for suspected fraud and money laundering<br>ESG tool | <b>External data capital</b><br><br>Market data<br>Operating environment data<br>External reference data<br>ESG data   |
| Ecosystem and operating environment services | Interconnected API services<br>Regulatory data services and reporting<br>Reporting to central bank  |  |

# Key figures

| Customers (million customers)         | 2019 | 2020 | 2021 |
|---------------------------------------|------|------|------|
| Retail Banking customers              | 3.3  | 3.3  | 3.3  |
| Corporate Banking customers           | 0.3  | 0.3  | 0.3  |
| Owner-customers                       | 2.0  | 2.0  | 2.0  |
| Joint banking and insurance customers | 1.2  | 1.3  | 1.3  |

| OP Financial Group's service channels                               | 2019    | 2020    | 2021    | Change |
|---|---------|---------|---------|--------|
| Digital channels NPS  | 53      | 54      | 52      | -2     |
| Online and mobile services (millions of logins per month, average)  |         |         |         |        |
| Op.fi   | 8.5     | 5.7     | 4.4     | -22%   |
| OP-mobile   | 25.2    | 33.6    | 40.1    | 19%    |
| OP Business mobile  | 0.8     | 1.3     | 1.7     | 34%    |
| Pivo mobile app (visits)  | 4.4     | 3.6     | 3.7     | 2%     |
| eService Agreements (1,000)   |         |         |         |        |
| Private customers   | 1,937   | 1,980   | 2,024   | 2%     |
| Branches and telephone services                                     |         |         |         |        |
| Bank branches   | 352     | 342     | 324     | -5%    |
| Sosial media  |         |         |         |        |
| Followers on Facebook (OP Financial Group and OP cooperative banks) | 376,979 | 442,004 | 470,609 | 6%     |
| Followers on Twitter  | 42,515  | 46,591  | 50,158  | 8%     |
| Followers on LinkedIn   | 43,355  | 60,188  | 69,888  | 16%    |
| Followers on Instagram  | 14,953  | 18,211  | 26,100  | 43%    |
| Followers on YouTube  | 4,140   | 6,090   | 7,811   | 28%    |

**Digital services' key figures and ratios**

(1,000, unless otherwise indicated)

|   | 2019 | 2020 | 2021  | Change   |
|---|------|------|-------|----------|
| Home loan applications processed by the Credit Engine         |      |      |       |          |
| Total applications processed automatically                    | 26   | 57   | 92    | 61%      |
| Positive decisions made automatically                         | 9    | 20   | 34    | 70%      |
| Number of reports sent to authorities per month               | 20   | 20   | 20    | -        |
| Ratios of the banking services chatbot Opotti                 |      |      |       |          |
| Message resolution rate                                       | 70%  | 80%  | 82%   | +2% pps  |
| Fully automated chats   | 40%  | 44%  | 54%   | +10% pps |
| Customers giving positive feedback                            | 67%  | 72%  | 67%   | -5% pps  |
| Fully automated chats of the insurance services chatbot Viljo | 50%  | 50%  | 58%   | +8% pps  |
| Message resolution rate                                       |      |      | 88%   |          |
| Customers giving positive feedback                            |      |      | 46%   |          |
| Number of external APIs in production                         |      | 48   | 63    | +15      |
| Data transferred through external APIs, terabytes             |      | 563  | 3,200 | 468%     |
| Number of users registered for Siirto payments                | 666  | 899  | 1,055 | 17%      |

**Data capital** (1,000, unless otherwise indicated)

|   | 2019    | 2020    | 2021    | Change |
|---|---------|---------|---------|--------|
| Data in analytical databases, terabytes   | 520     | 766     | 885     | 16%    |
| Number of log events collected by centralised log management per month, (billions)* | 97      | 165     | 200     | 21%    |
| Number of electronic documents  | 520,000 | 611,000 | 775,000 | 27%    |
| Digitalisation of agreements in banking services                                    |         | 45%     | 45%     | -      |
| Customer details maintained through the My Profile service                          | 250     | 947     | 620     | -35%   |

**Data capabilities and competence**

|  | 2019 | 2020 | 2021 | Change |
|--|------|------|------|--------|
| Employees working in data development and refinement tasks in OP Financial Group's central cooperative | 480  | 606  | 635  | 5%     |
| share of the central cooperative's personnel   | 7%   | 8%   | 8%   | -      |
| Employees trained in the use and management of AI  | 500  | 636  | 555  | -13%   |
| Training courses organised by OP SW Academy  |      | 430  | 424  | -1%    |

**Data protection and internal control**

|   | 2019 | 2020      | 2021      | Change |
|---|------|-----------|-----------|--------|
| Number of customer requests for access to personal data processed by financing and insurance operations | 362  | 453       | 390       | -14%   |
| Cookie consents, op.fi and OP-mobile  |      | 1,985,435 | 2,255,659 | 14%    |
| Customer complaints related to personal data processing or privacy protection                           | 11   | 20        | 16        | -20%   |
| Cases categorised as personal data breach   | 750  | 916       | 950       | 4%     |

For security reasons, OP doesn't publicly report key figures related to anti-fraud and anti-money laundering.

\* The calculation principle of the key figure has changed since the 2019 report.



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