

IMPACT REPORT 2016 – 2018



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#### 1. Fund

### Theory of change

Long-term investments in forests and their sustainable management form an important contribution to maintaining and improving the functionality of diverse and valuable ecosystems. The reconciliation of economy and ecology through sustainable forest management, which gives equal consideration to the productive as well as protective functions of a forest, is a key objective of the Aquila Capital Timber Investment Fund S.A., SICAV-SIF (ACTIF or "the Fund"). The Fund's investment and management processes combine internationally recognised certification, ESG (environmental, social and governance) criteria and impact targets.

The **integration of ESG criteria** serves to consider environmental and social factors as well as the principles of good governance in the



context of investment processes. Many investors, such as signatories to the UN Principles for Responsible Investment initiative (UN PRI), Aquila Capital being one of them, integrate ESG criteria into their analysis of investments.

Investing in ESG-oriented strategies is also a key component of the Paris Agreement to combat climate change, which aims to limit the increase in global temperature to 1.5 degrees Celsius above pre-industrial levels and align financing flows with climate targets. ACTIF's investments contribute to the achievement of the objectives set out in the Paris Agreement in the context of climate change mitigation and adaptation, as well as several of the 17 sustainable development objectives developed by the United Nations.

All investments of the ACTIF are **impact investments**. These are investments aimed at achieving manageable and measurable goals to solve defined problems. ACTIF is geared to the UN's 17 sustainability goals in order to ensure sustainable development at an economic, ecological and social level. Goal 15, which aims to protect and restore terrestrial ecosystems and promote their sustainable use, is particularly relevant for forestry investments. Proof of the sustainable management of forest areas held by ACTIF is provided through certification schemes which label economically, socially and ecologically sustainable forest products, such as the PEFC (Programme for the Endorsement of Forest Certification Schemes) and FSC (Forest Stewardship Council). The Fund's investments are also managed in accordance with internationally recognised standards that exceed the requirements of local laws.

The destruction of forests causes about one fifth of the world's annual greenhouse gas emissions. At the same time, more than a quarter of all CO2 emissions are sequestered in forests each year. The contribution to CO2 sequestration made by a sustainably operating forest and timber industry consists of maintaining or building up the carbon storage in forests and removing part of the carbon from the cycle through the production of long-life wood products.

Forest areas are most effectively protected from deforestation and land-use conversions through sustainable management. In this respect, forestry is the form of land use that can sequester the most carbon. It removes CO2 from the atmosphere long-term by storing it in biomass and soil and through the use of wood as a raw material. Against this background, ACTIF prefers to invest in forests whose strong tree growth sequesters large volumes of CO2, and in countries whose wood-processing industries allow for the highest possible proportion of wood to be used as a raw material (e.g. as construction timber) as opposed to a source of energy.

The technological advantage gained through the development of engineered wood products in countries such as Finland allows for the comprehensive use of harvested trees, so that hardly any woody material is wasted. In addition, this form of management maximises the carbon storage function and makes it superior to the contribution of unused forest areas over the long term. This does not mean that all land is used for timber production. In every forest enterprise in which ACTIF invests, partial areas are also reserved for environmental protection and are generally not managed.

ACTIF also aims to **transfer and exchange know-how** within its internationally diversified portfolio and through Aquila Capital's globally experienced management team so that forest operations, though small in an international context, can be developed and managed efficiently. Among other things, innovative technologies for optimisation and forest-protective management are applied, which can be subsumed under the term "precision forestry". The principle of precision forestry consists of the use of modern tools, machines and technologies, such as remote sensing, navigation and geo-information systems, to improve decision-making processes on the basis of comprehensive information to ensure the objectives of forest management are met.

In this respect, sustainable forestry investments offer an opportunity to sensibly combine economy and ecology - for the **preservation of the creation**.

#### Key achievements 2016 to 2018









ENVIRONMENTAL PROTECTION:

96 ha are protected by law, but three times this area (275 ha) is voluntarily protected and not used for forestry.





#### **Investment targets**

The investment objective of ACTIF is to enable its investors to participate primarily in the performance of timberlands and forestry assets and in the income from renting out or leasing out these properties.

The Fund's economic guidelines only allow investments in:

- Countries that offer adequate legal and political stability and an appropriate level of taxation;
- Countries with suitable **site conditions** for timber production;
- Assets with balanced risk/return structures and reasonablevaluations.

In accordance with these economic guidelines, investments in forestry companies are made exclusively in regions with a sufficient availability of

- Suitable forest areas,
- Selection of qualified management companies;
- Good infrastructure.

The Fund's ethical guidelines allow investments that

- Take account of their environmental impact. Negative environmental impacts from the projects are actively reduced and generally avoided;
- Create fair working conditions. Child labour and forced labour are prevented and high safety standards are applied to protect the health and safety of the people employed in the operating companies;
- Preserve cultural heritage. Cultural heritage is protected from the possible negative impacts of an investment project.

The investment company aims to prove the **sustainable management of** all investments through appropriate third-party **certification systems**.

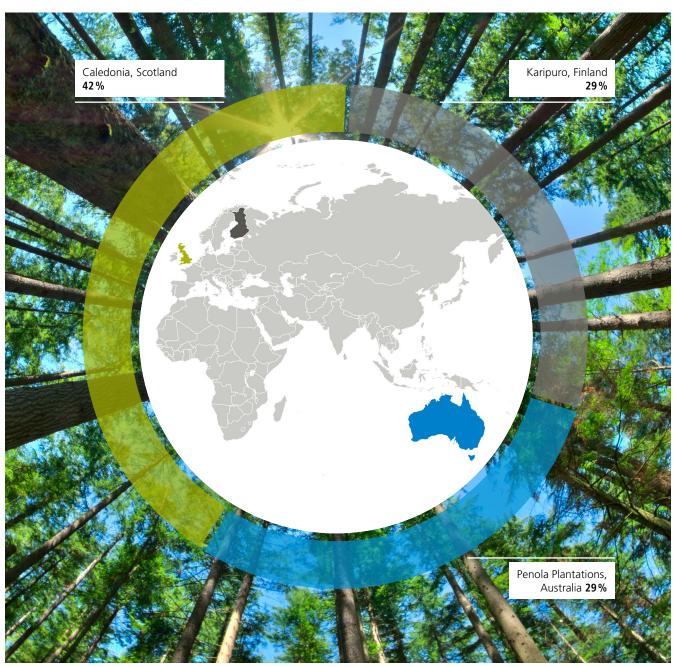
The **value drivers of forestry investments** are essentially the biological growth of trees and management techniques to steer value development through sustainable forestry. In this respect, optimisation and know-how transfer across the forest enterprises can be decisive, for example, in the securing of timber sales through long-term purchase contracts with regional and international customers; or the diversification of income streams through alternative forms of use with a positive influence on the risk profiles of assets. A further prerequisite for sustainable value development is a favourable timber supply to demand ratio in the target countries.

### Description of the fund's portfolio

The ACTIF's forestry investments are currently spread over three geographies in Finland, Scotland and Australia, covering a total area of around 8,600 ha. They comprise two direct investments (in Finland and Scotland) and one fund investment in the Green Triangle region of south-east Australia. This distribution features diversification across different countries and locations with varying vegetation zones and

silvicultural systems. Various timber markets in different currency zones are being supplied. The fund can invest in three economically well-developed regions: Europe, Oceania and North America. Possible future ACTIF target countries, in addition to those already mentioned, are New Zealand, Canada and the USA.

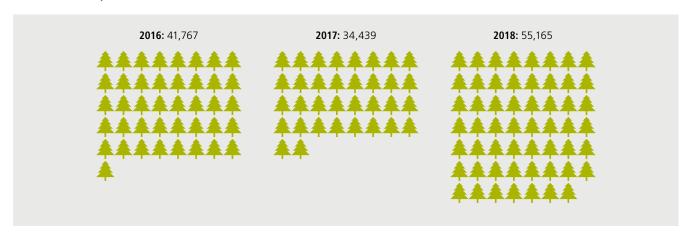
## World map with investment locations



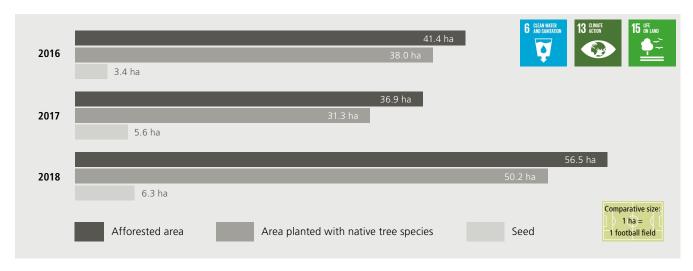


## Finland: Key data

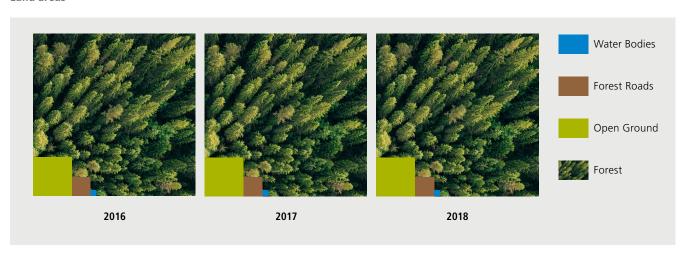
## Number of trees planted



### Afforested area



## Land areas



#### Finland: Insights into local operations

The tree species composition consists of spruce (*Picea abies*), pine (*Pinus sylvestris*) and birch (*Betula spec.*) as well as various other softwood species, although the latter play a minor role in terms of area. All these tree species are native to Finland, so the forest is very close to its natural state. Areas planted by the previous owner with Lodgepole pine (*Pinus contorta*), which is not native to Finland, were harvested and reforested with native tree species. This improved the forest's closeness-to-nature and reduced cultivation risk. ACTIF aims to maintain a balanced range of native tree species in Finland.

Forest regeneration, i.e. the establishment of the next tree generation following the removal of trees that were ready for harvesting, is usually done by planting. However, in the Finnish forests held by ACTIF, about 10%-20% of the areas to be regenerated are sown, using only the seeds of native trees.

The soil cultivation required prior to sowing is carried out to a lesser extent and via methods that are less disturbing to the soil than those used for planting. In this respect, sowing is a process that is very similar to the natural processes that occur in an unmanaged forest. The aim of ACTIF is to increase the proportion of sowing and reduce the proportion of planting.

The Finnish forest areas of ACTIF feature a high level of biodiversity. This is expressed, among other things, in the large number of herbaceous plants that cover the forest floor. Blueberries, cranberries, cloudberries and mushrooms are now considered superfoods, but they also tell the local forest manager a lot about the condition of the soil and the availability of nutrients and water. Just as interesting



are ferns and mosses, which also have a function as indicator plants, in that they indicate certain characteristics of the soil. ACTIF aims to preserve this biodiversity.



Tree species diversity becomes visible through discoloration in autumn



Timber harvesting site



Porcini mushrooms and berries in autumn

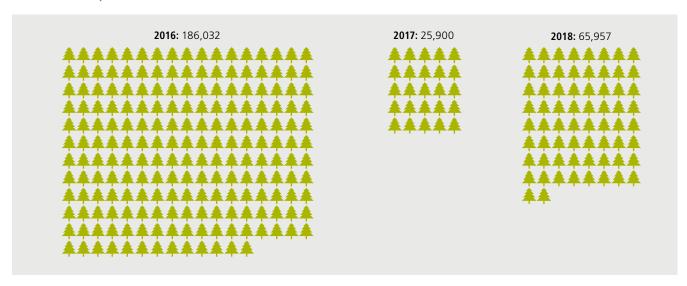


Five different mosses found on one square metre of forest soil

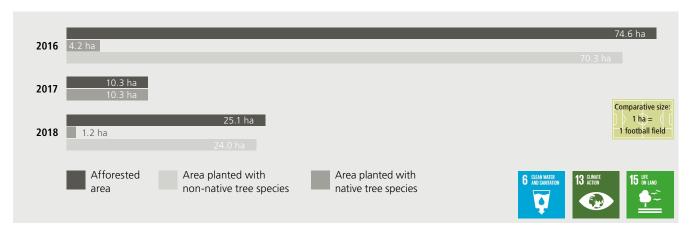


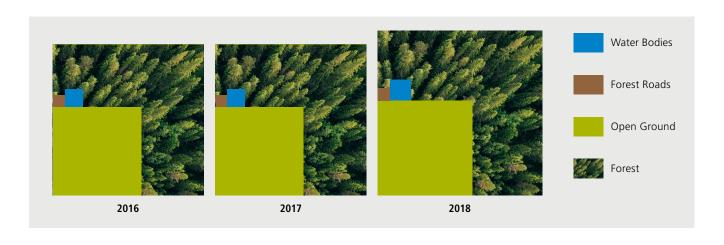
## Scotland: Key data

## Number of trees planted



#### Afforested area





#### Scotland: Insights into local operations

Forestry in Scotland is characterised by a comparatively simple silvicultural system, with two main tree species: Spruce (Picea sitchensis) and pine (Pinus contorta), which are not indigenous to Scotland, but both of which show above average growth rates there. These species account for approximately 80% of Scotland's annual roundwood production. After harvesting, the areas are usually reforested with the same tree species.

ACTIF aims to change this approach in two ways. On the one hand, the objective is to achieve a greater diversity of tree species at the portfolio level, which should also improve the forests' resilience towards climate change. However, the focus on softwood species will be maintained, as Scottish wood-processing companies are not able to process other wood species.

On the other hand, if the forest age allows, a change to thinning regimes and the use of natural regeneration is being applied. Through thinnings, the quality of timber can be improved, and the natural regeneration of forest stands – distinct areas of forest containing trees with similar characteristics – can be managed. This approach is ecologically and economically superior to that used by the traditional forestry system in Scotland. If the forest stands are already too old, it is only possible to switch to a thinning regime with the next generation of trees. The old stands are harvested and then reforested by planting. Seeding techniques cannot yet be applied on the Scottish sites.

ACTIF has acquired several assets in Scotland on which the previous owner had harvested but not reforested parts of the land. The Fund planted these areas during the first year after purchase to ensure the positive effects of planting trees (protective and productive func-



tions). Native hardwood species have been planted along the banks of watercourses in some areas and protected from browsing by wild animals. These hardwoods and their associated areas will, in future, fulfil purely ecological functions including water protection.



Afforestation near water bodies with hardwood species in biodegradable tubes to protect against browsing by game



Recently planted spruce

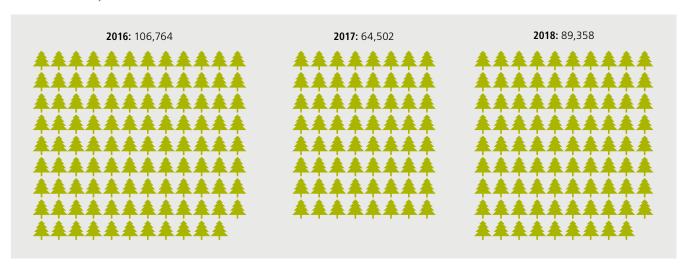


ACTIF forest area in Scotland, certified according to FSC and PEFC standards

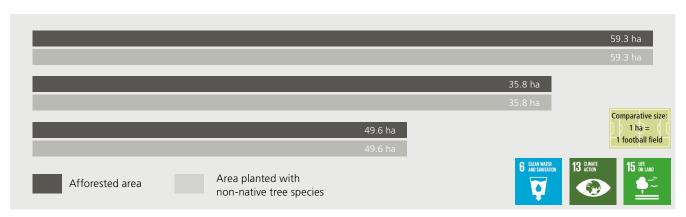


## Australia: Key data\*

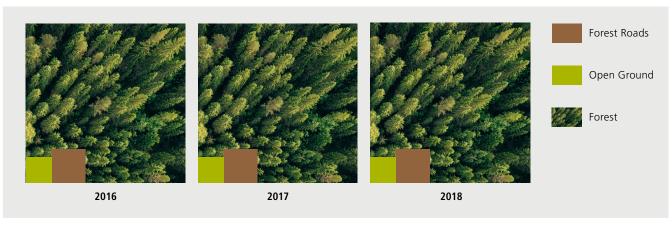
## Number of trees planted



#### Afforested area



## Land areas



<sup>\*</sup> These figures refer only to the share owned by ACTIF.

#### Australia: Insights into local operations

The previous owner of this forest enterprise had reduced the amount of thinnings over several years and finally terminated some of them completely. Following acquisition, the thinning programme was resumed, in order to improve the management of the qualitative development of younger forest stands. In the meantime, the necessary entrepreneurial resources were no longer available. Therefore,



a "preferred partner program" was created, which allowed entrepreneurs to purchase machines for thinning work and hire labour on the basis of an almost guaranteed capacity utilisation. These advantageous conditions helped create long-term local jobs.

In Australia, non-native plant species that sometimes spread invasively have major negative effects on the native flora. In this forest enterprise, areas which had been affected by invasive plant species and predominantly bore native trees, have been improved by eliminating plant species that were harmful to the local ecosystem. In addition, the local manager, New Forests, has implemented various measures to improve bird habitats. In 2016, work was started on recording and improving the forestry's wetlands.

This initiative, carried out in collaboration with the government agency Natural Resources South East, concerns threatened seasonal herbaceous wetlands (SHW). These are freshwater wetlands that are only flooded between winter and early summer and are characterised by sedges, grasses and herbaceous plants. In many places in Australia, these ecosystems have been drained and transformed into attractive agricultural areas, which explains their rarity today.

The forest enterprise has identified about 40 of these wetlands, most of which are in good condition and home to a large number of native aquatic plants. Many of these wetlands have proven to be of national importance, with rare communities of wetland species remaining intact due to the protection of adjacent forest areas.

The current project comprises 22 wetlands, five of which are of national importance. The 2018 winter season showed some early successes of the restoration programme, with animal indicator species such as the Brolga crane (Antigone rubiconda) being spotted in the newly restored wetlands



Iconic animal species found on the asset.





Thinning stand

## 3. Portfolio impact

#### **Review and outlook**

The certification of sustainable management of all areas is an important objective of ACTIF, which will be achieved over the Fund's duration, unless forest land is already certified by the time of acquisition by ACTIF. Currently, about one third of the land in Scotland is not yet certified. Such certification requires a management plan



approved by the forestry authority. Plans were either not in place at the time of the acquisitions or have to be adjusted due to objectives differing from those of the previous owner. However, all areas will be managed in the same sustainable way, regardless of whether

they are already certified or not. In this respect, all ecological and social aspects of certification are taken into account, but the formal achievement of certification status takes time.

Environmental aspects of management often concern the management and protection of surface waters. In Australia and Scotland,



areas close to watercourses have already been restored. In Finland, the focus was primarily on the protection and conservation of biodiversity, as the forest areas in the region were already close to nature.

Many assets in Scotland contained areas that were unstocked at the time of purchase and needed to be reforested to restore the ecolog-



ical and productive functions of the forest. As a result, approximately 100 ha (1 km²) in Scotland were replanted shortly after acquisition. A slight increase in biodiversity has been achieved by using additional tree species.

In commercial forests, the new generation of forest stands is usually established by planting. In Finland, a certain proportion of reforested areas was established by the closer-to-nature seeding method. The



management of ACTIF intends to promote the use of near-natural methods such as sowing (or preferably natural regeneration) and increase the diversity of tree species.

Social factors have so far mainly concerned people employed in the respective forest enterprises. In Australia, the resumption of a thinning programme created additional long-term jobs.



Fund management maintains close and trusting relationships with local service providers. In future, it's expected social considerations will extend to more stakeholders.

Every cubic metre of timber sold by the Fund's forestry operations



has been certified and has originated from sustainably managed forests. For every cubic metre of timber harvested, about five new trees have been planted.

At present, we cannot make a definitive statement about the CO2



balance of the Fund's forestry operations, as not all of the operations are yet able to report their CO2 emissions. Reporting requires consideration of the quantities of carbon stored above and below ground, as well as withdrawals and releases during manage-

ment and timber harvesting. In the future, management intends to develop and report a CO2 balance for all the Fund's forest operations and assets.

## **ACTIF Portfolio Impact Parameters**













		Unit	2016	2017	2018											_		
Parameter	IRIS Code					6.3	6.6	8.2	8.3	9.1	9.4	12.2	12.4	13.1	15.1	15.2	15.3	15.5
Area of Land Deforested	PI1489	ha	0.0	1.5	0.0		х	_	_	_	_	_	_	_	х	х	х	
Area of Land Reforested	PI4907	ha	175.3	83.1	131.2		х							х	х	х	х	
Area of Trees Planted: Native Species	PI3848	ha	42.2	31.3	51.3		х							х	х	х	х	
Area of Trees Planted: Total	PI4127	ha	171.9	77.5	124.9		x							х	х	х	х	
Ecological Restoration Management Area	PI9556	ha	14.3	14.0	13.6		x					х		х	х	х	х	х
Forest Management Plan	OI2622		yes	yes	yes		x								х	х	х	
Land Directly Controlled: Cultivated	OI1674	ha	6,482.2	6,488.1	6,938.2		х	х					х		х	х	х	
Land Directly Controlled: Sustainably Managed	OI6912	ha	8,017.4	8,017.5	8,652.0		x	х				х	х		х	х	х	
Land Directly Controlled: Total	OI5408	ha	8,017.4	8,017.5	8,652.0		x	х				х	х		х	х	х	
Length of Streams Present	PI3239	m	20,501	20,501	38,001		х								х			х
Length of Streams Restored	PI6885	m	400.0	0.0	500.0		x								х			х
Number of Trees Planted		n	334,563	124,841	210,480		x								х	х	х	
Product/Service Certifications	PD2756	%	100%	100 %	100 %	x		х	х	х	х	х	х					
Protected Land Area: Permanent	PI3924	ha	96.1	96.2	96.3		х					х			х	х	х	х
Protected Land Area: Total	PI4716	ha	274.3	274.3	274.4		x					х			х	х	х	х
Type of Land Area – barren	PD3922	ha	1305.9	1305.9	1472.2		х					х			х	х	х	х
Type of Land Area – roads	PD3922	ha	130.2	131.4	133.9		x					х			х	х	х	х
Type of Land Area – water	PD3922	ha	48.9	48.9	65.4		x					х			х	х	х	х
Type of Land Area – forest	PD3922	ha	6482.2	6486.9	6937.0		х					х			х	х	х	х
Units/Volume Sold: Total	PI1263	m³	35,158	50,542	52,241	x		х	x	х	х	х	х					
Units/Volume Sold: Certified	PI7289	m³	35,158	50,542	52,241	x		х	х	х	х	х	х					
Water Quality Practices	OI7365		yes	yes	yes	x					х	х	х	х				



- **6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- **6.6** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes



- **8.2** Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors
- **8.3** Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services



- **9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
- **9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities



- **12.2** By 2030, achieve the sustainable management and efficient use of natural resources
- **12.4** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment



**13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries



- **15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements
- **15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
- **15.3** By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
- **15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

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As at: 31.12.2019.