

FASE

FINANCING AGENCY FOR
Social ENTREPRENEURSHIP



Success study ignitia

Scaling and financing
a social innovation

March 2023

ignitia TROPICAL
WEATHER
FORECASTING



Content



Kompetenzzentrum
für Soziale Innovationen
Deutschland



Kofinanziert von der
Europäischen Union

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FASE & ignitia

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Summary: accurate weather forecasts for better yields

The social problem:

- Tropical regions represent 75% of global agricultural land with around 500 million small-scale farmers. This makes the **tropics central to worldwide food security**.
- Weather conditions are the biggest driver of yield losses in these regions. Rain is often the only source of irrigation, while weather forecasts are notoriously unreliable. As a result, small-scale farmers struggle to make the right decisions and are exposed to **substantial yield losses, reduced income, and (risk of) poverty**.

The solution:

- ignitia enables small-scale farmers in tropical climates to optimize decisions on weather-sensitive activities such as sowing, fertilizing, and harvesting. More than 80% of the farmers reported **an income increase** as a result, with 61% stating that their income “very much increased”.
- ignitia’s solution provides an **unprecedented reliability of over 84%** and is delivered via simple, easy-to-understand SMS based on a subscription model.

Proof of Concept:

- With 2.6 million subscribers, ignitia is active in 9 countries and has sent **more than 1 billion weather forecast messages** to its customers to date.

Scaling:

- In order to scale and expand the user base, the social enterprise was looking for growth capital in 2020 and secured a Series A financing round with support from FASE in 2021, based on a **hybrid financing model**.





ignitia

envisions a world where smallholder farmers in the tropical belt improve their productivity and break out of poverty.

Major recent successes

- ignitia has [expanded to Brazil and new West African markets](#), including Sierra Leone and Ivory Coast, and secured 6 telecommunication partners across West Africa
- New product launches, e.g., mobile app, Climate Smart Advisory
- ignitia is the [2022 winner](#) of the “Impact Potential” award from [MasterCard Lighthouse Massiv](#)
- ignitia is selected to participate in Google StartUps for Sustainable Development, Microsoft for Positive Impact Accelerator, Microsoft Founders Hub, the Swedish Climate Startup Map, and one of Latin America’s largest innovation hubs, Cubo Itaú.
- ignitia reached a total of [2.6 million farmer subscriptions](#), with 79% of active users valuing the usefulness of ignitia’s data, advice on farming, and facilitation of easier decision-making*

* As reported by 60_decibels Qualitative Farmer Impact Study, March 2023



The market challenge: lack of data and know-how in tropical farming

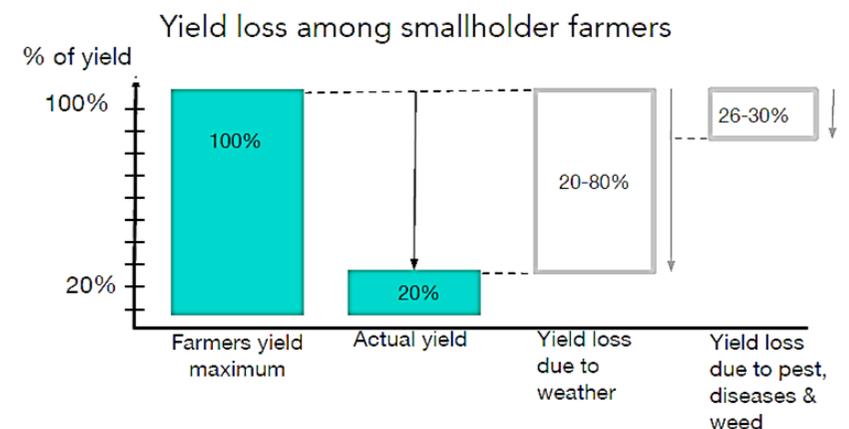
Weather is causing **more yield losses than all pests and diseases together**. While non-weather-related yield losses stem mostly from unhealthy soil, weed, insect pests, and plant diseases and account for 26-30% of the losses, the weather has a much more massive influence. Research by the World Bank shows that countries can save US\$13B in asset losses annually by investing in weather forecasting. Climate change and growing global food demand will exacerbate the problem. The main root causes are intertwined:

Lack of reliable weather data:

- Current forecasts in tropical climates perform worse than tossing a coin. Optimized for temperate climates, incumbent models are struggling with predicting rain in tropical conditions, which is often the only source of irrigation. For example, tropical forecast in West Africa **averages only 39% accuracy**.

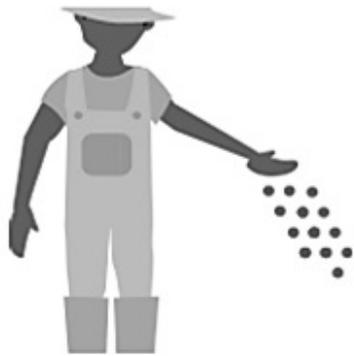
Farmers' uninformed decisions on weather-sensitive activities:

- Critical decisions and sources for yield losses are **timing issues** of farm activities, suboptimal planting input application, harvesting, drying, lodging, water stress.
- Also, there is a lack of knowledge of good agricultural practices.



The solution: an SMS subscription model for accurate weather forecast

How it Works



Farmers subscribe to receive forecasts: daily, monthly, and seasonal



Ignitia's weather model develops localized forecast, based on GPS



Forecasts are delivered via SMS. No smartphone or app. download required



Farmers decide when it is best to plant, fertilize, harvest, etc., based off of forecasts

The beneficiaries

- ignitia's beneficiaries are small-scale farmers in tropical regions, **out of which around 87% live in poverty.***
- 86% of farmers reported climate shocks last year: flooding, significant pest or farm disease outbreaks, or drought. **One-third of farmers experiencing a climate shock cited ignitia's forecasting and advisory service as helping them to recover.***
- **9 in 10 farmers accessed weather forecast services for the first time** due to Ignitia and 7 in 10 could not easily find a good alternative*.
- ignitia services have helped farmers feel **more comfortable with digital tools** in general

* As reported by 60_decibels in the Lean Data Insights report from Oct. 2020 and the Qualitative Farmer Impact Study of March 2023





The product: Iska

Precise climate and weather predictions at each farmer's fingertips

How Iska works

Easy-to-understand 48-hour weather forecast messages, delivered daily via SMS, directly to the subscribers' phones

Improving productivity & mitigating yield loss



sowing
weeding
harvesting



applying inputs



spraying plants



planning tractor
usage

.. and optimizing the seasonal farming cycle and logistics



Land and
labour planning



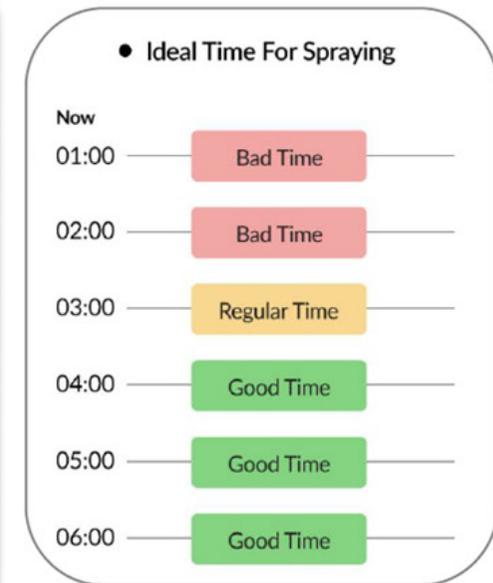
Crop cycle
planning



Stock positioning
and warehousing



Drying and
logistics planning



The social entrepreneur

“Our mission is to provide highly accurate tropical weather forecasts to empower farmers to make better decisions.”



Liisa Smits

M.Sc. In Meteorology from Stockholm University and M.Sc. In Physics from Uppsala University, Sweden. Visiting Scientist at University of Washington, Seattle, US

Inception of Ignitia

2010

Motivation

Making an accurate and reliable weather forecast system accessible to small-scale farmers so they become more resilient against climate shocks and less exposed to poverty

Progress to Date

- Elected as an Ashoka Fellow in 2014
- Founded ignitia following a research project to understand the differences in tropical weather events and create a model to more accurately predict them.
- ignitia reached an accuracy of 84%, more than twice as accurate as global producers.

The business case

ignitia's B2C model is based on revenue-share arrangements with global Mobile Network Operators (MNOs). Farmers benefit from the Pay-As-You-Go service and are charged to current phone credits

1

Farmer signs up with their existing MNO by using a short-code

2

MNO sends farmer's subscriber GPS data to ignitia

3

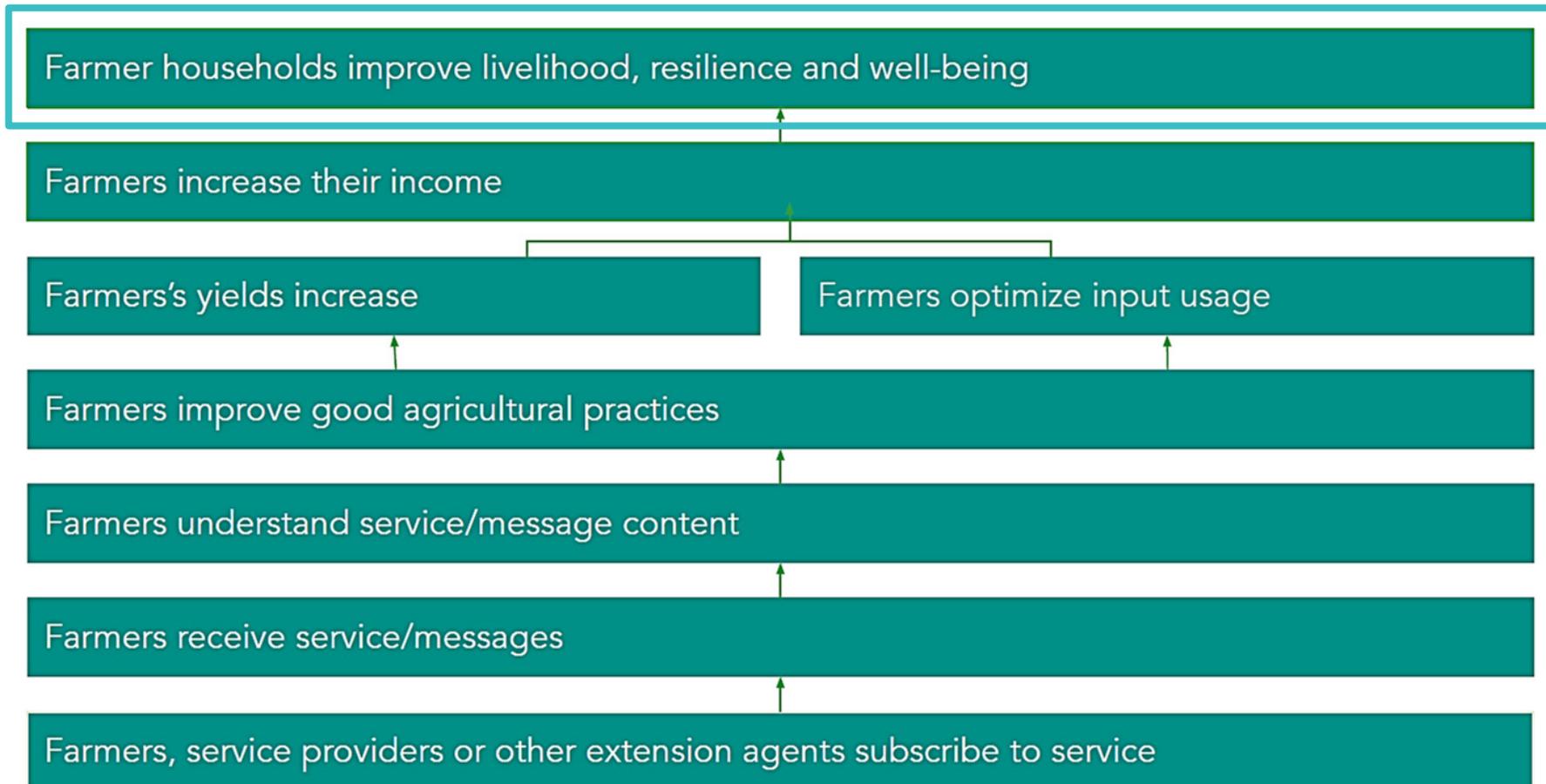
ignitia sends forecast message to farmer and receives microinstalment of USD 0.04 in return

4

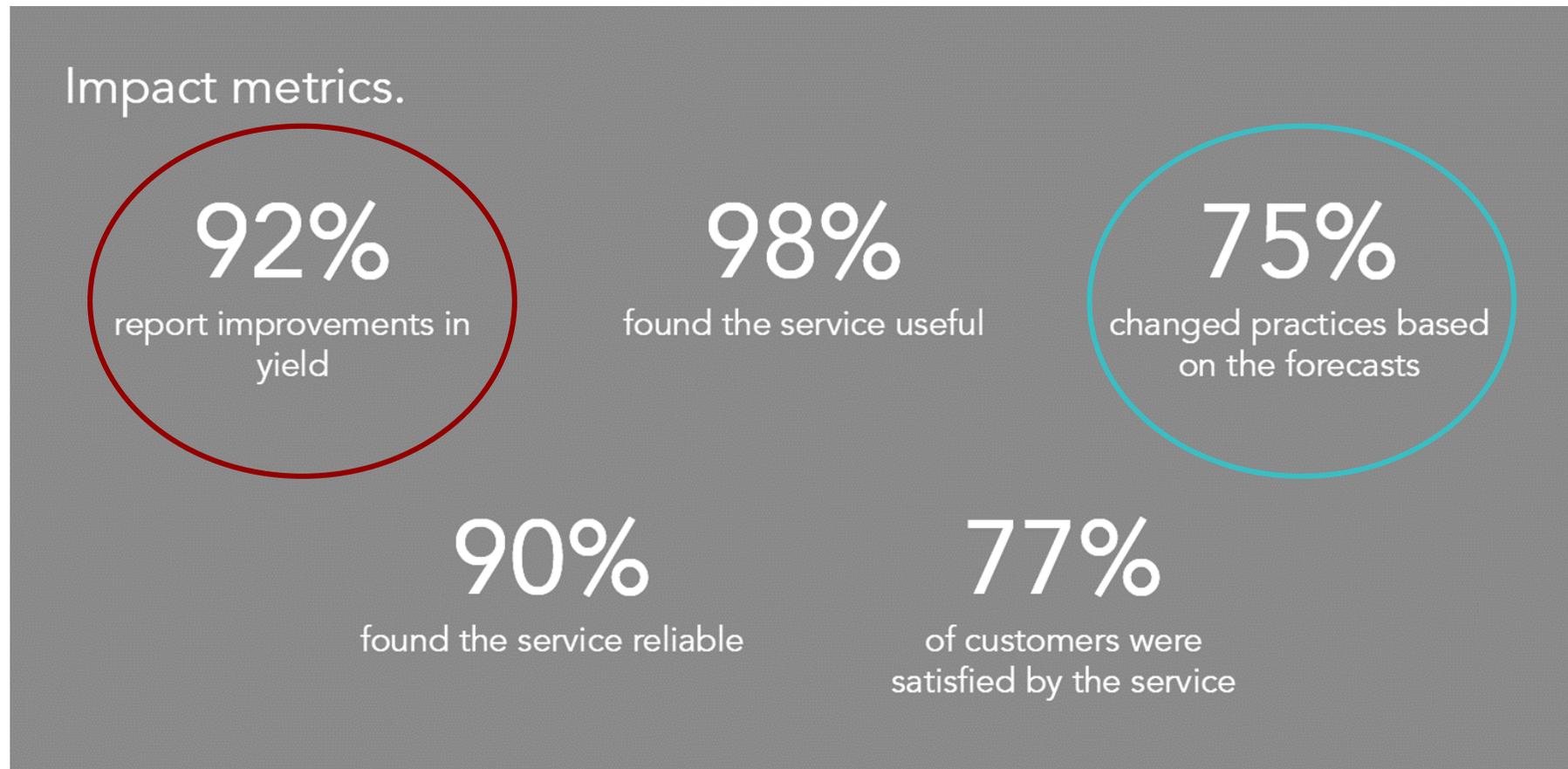
ignitia enlarges offering through partnerships, e.g., for seeds, fertilizer, crop protection, machinery and other farming tools (B2B2C)

The impact: Theory of Change

ignitia's Theory of Change



The impact: results summary



Source: ignitia - Agile Impact Research by Busara, 2021

The impact: testimonials

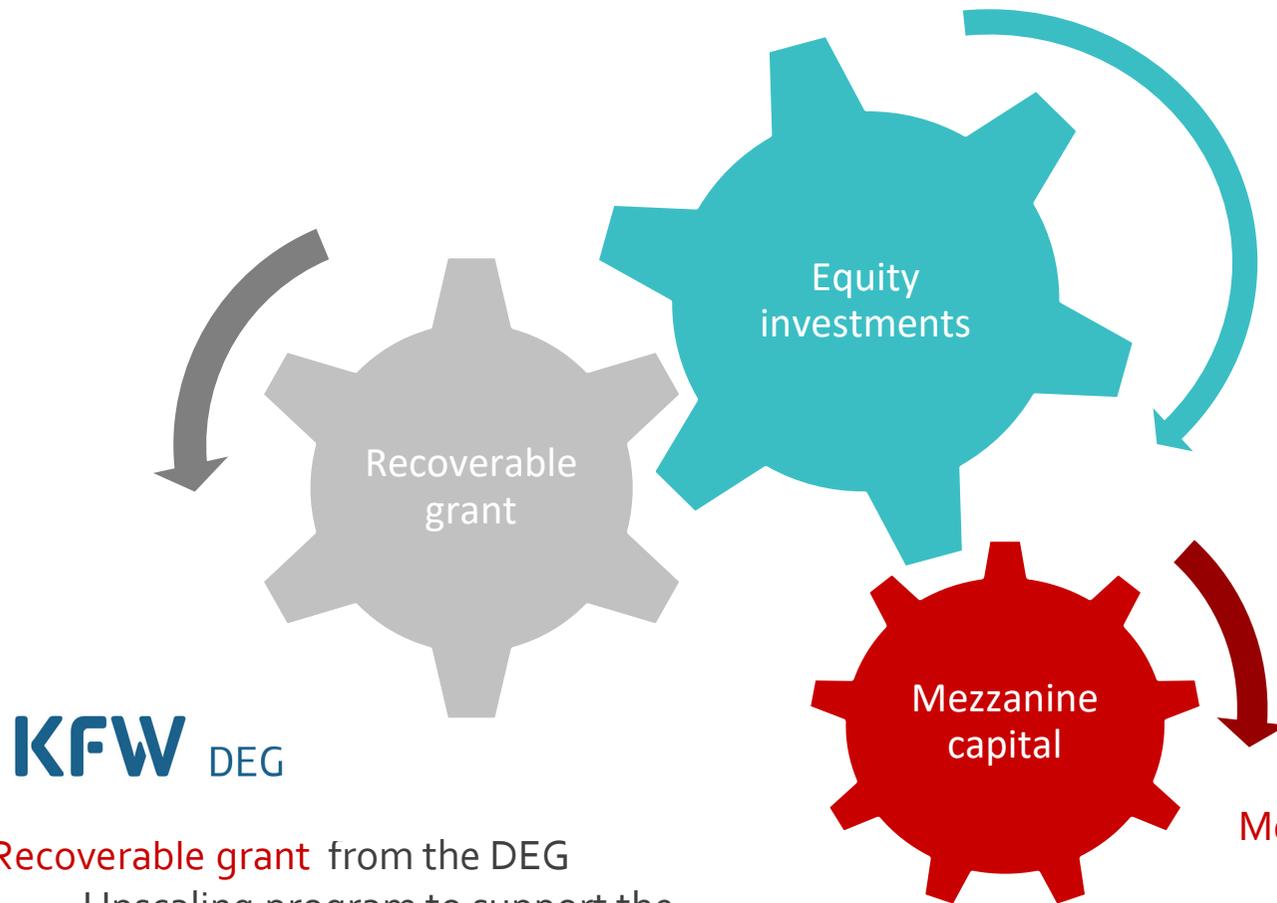


Araba

“When I was growing up, the rains would come at specific times and it would rain so much that even when we didn’t plant seeds, crops still grew naturally. Now, we can’t even tell when it’s rainy season **because it rains so little and it’s unpredictable**. When Iska came, I didn’t believe them. I monitored for a while, and it was **only when I saw that the predictions were accurate that I started to apply it**. Now, I enjoy a **bountiful harvest** because I know when to fertilize and plant and harvest.”

Source: ignitia. For more testimonials, [watch this video](#)

The hybrid financing model & the investors (2021)



Recoverable grant from the DEG
 Upscaling program to support the scaling of Ignitia's innovative solution and to create high development impact.

KfW DEG

Equity investments by lead investor Novastar Ventures, with Ikea Social Entrepreneurship, Future Foodways, Mercy Corps, Norrsken and Finca International, to increase the capital base of Ignitia.



Mezzanine capital as matching funds from the European Social Innovation and Impact Fund (ESIIF) to provide additional growth capital in the form of a subordinated loan.

Detailed terms & conditions: mezzanine capital by the ESIF (2021)

Structure

Fixed return

Equity bonus

Final remuneration

Maturity

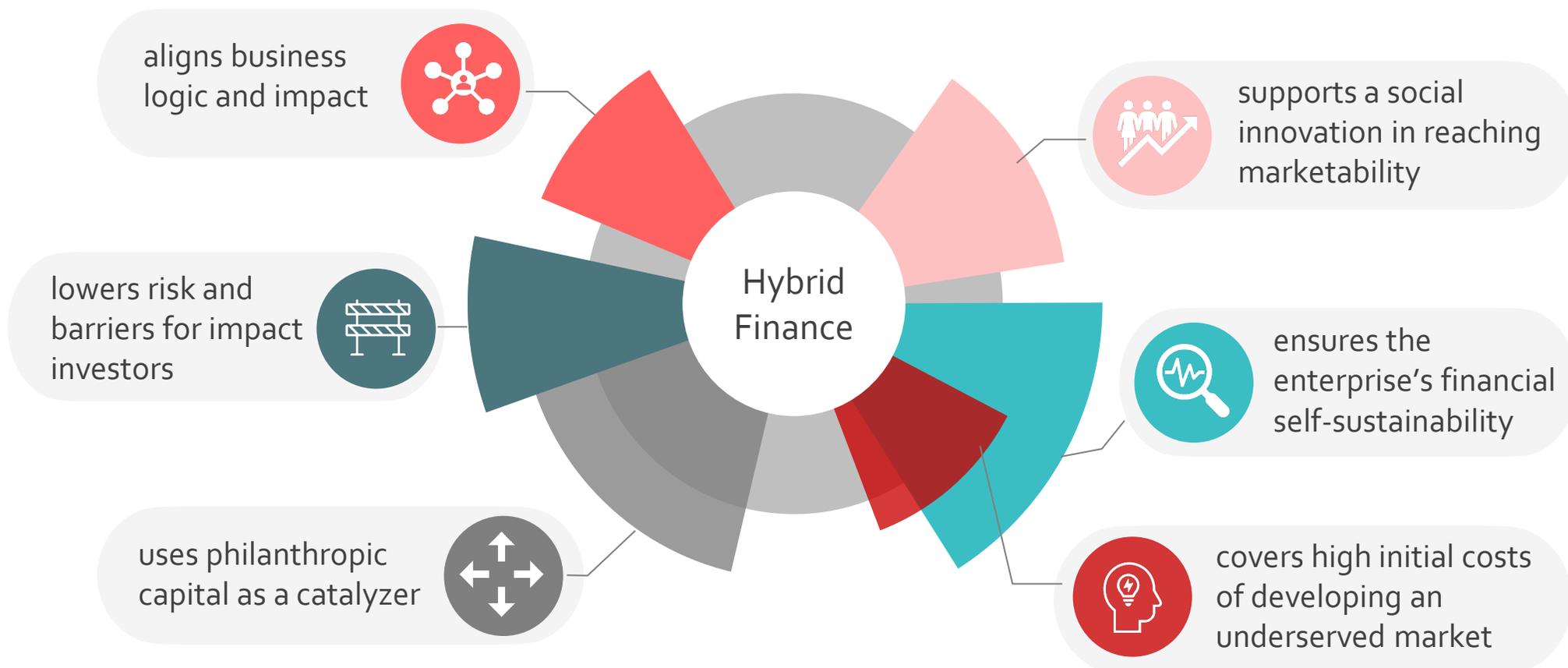
Investor rights

Mezzanine capital as subordinated loan

- Mezzanine capital in the form of unsecured, subordinated and bullet loan
- 5% p.a. + annual step up
- In case of an exit event for Ignitia, the ESIF is entitled to an equity bonus on the nominal amount. The relevant period starts with the commencement of the mezzanine contract and ends 12 months after full repayment of the subordinated loan.
- A final remuneration that brings the ESIF's total IRR to 8% p.a. on the nominal amount
- 5 years maturity
- Information-, participation-, approval- and transfer rights

Main insights: How hybrid finance supports business and impact

A **hybrid financing model** can crowd-in different types of funders and features smart combinations of different financing instruments. It can also include incentives for impact achieved. In addition, such a model....



Would you like to learn more?

FASE



The Financing Agency for Social Entrepreneurship GmbH (FASE) was launched by Ashoka to support social enterprises in raising growth capital to scale their impact.

FASE's mission is to help create a thriving Pan-European ecosystem for social innovation by building coalitions between different types of investors and by developing innovative financing models specifically tailored to the needs of social enterprises.

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