

Private sector adaptation in Burgas District

Miha Škrokov Anteja ECG, presenting for TiCCA4Danu WP4



Sunny Beach, Burgas District



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Why we are here

78 → 117

very hot days a year

2024 observed, 2035 upper case

Hottest 5% of days here. Central projection is 80.

€ 3.9m

expected damage a year

Flood damage to infrastructure

63% in Kameno. The water network carries EUR 2.4m of it.

Oct 2025

the Elenite flood

Three died. Last October.

200 to 250 mm of rain in hours.

TX95p, E-OBS v32, 1950–2024. TiCCA4Danu WP2 workshop input, 2026.

Expected annual damage, fluvial flood. TiCCA4Danu WP2 workshop input, 2026. Novinite and BNT, 3 October 2025. Interior Ministry statements.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

What we did before inviting you here today



Most climate reports stop at “damage avoided”. That is not money you can count. Our five steps end where a company can act: a measure, a cost, a payback, and who pays.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

What we can offer

HEAT

Available now

Proven products. The saving comes straight off your electricity bill.

WHO PAYS

You, out of your energy bill

FLOOD

Half available now

Barriers and warnings are on sale now. The insurance is being built.

WHO PAYS

You for the barriers and insurance

WILDFIRE

Needs public money

Protects every business on the hillside, so nobody wants to pay first.

WHO PAYS

Public funds, with users paying the running costs



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Extreme Heat

Solutions for adapting to this climate risk

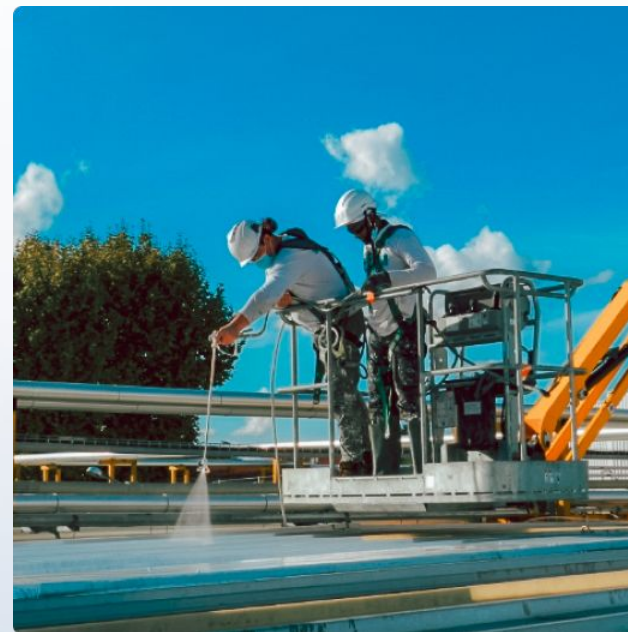


**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Addressing heat: Innovative coating for heat prevention

Already in use across Europe.



Cool Roof France

A tin of white coating. Painted straight onto the roof you already have.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Heat: reflective roof coating

Supplier shown: Cool Roof France. Indicative European ranges, conservative 25% cooling reduction assumed.

White coating painted onto the flat roof you already have. Reflects sunlight instead of absorbing it. Applied in a day or two, no building work.

Flat roof area **2,000 m²**

Spent on cooling each year **€ 45,000**

Cost of the coating **€ 44,000**

Time to pay back **Just under 4 years**

WHAT YOU GET

20–40 %

less spent on cooling, every year

You pay for it out of the saving. Banks lend against a predictable saving.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Cooling: the one you can try without committing

Nothing to install, nobody to ask, and you can move it if it does not suit.

Manufacturer figures, So.cool. Compared with a conventional split unit of similar capacity.



So.cool, Austria

	A normal split unit	This one
What you install	Outdoor unit, pipework, electrician	Nothing. Plug it into a socket.
Who has to approve it	Usually the landlord	Nobody.
If it does not suit	You have paid for it	Move it.
Electricity	The baseline	About half.
EUR 2,000 to 5,000 per unit		2 to 3 years to pay for itself
		about half the electricity

The only measure here you can test with one unit before committing.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Flooding

Solutions for adapting to this climate risk



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Flooding happened twice in two years

Two fatal floods in Burgas Province, 25 months apart.

SEPTEMBER 2023

5 September 2023

Floods across Burgas Province. State of emergency, 130 evacuated, four dead.

OCTOBER 2025

3 October 2025

Flash flood at Elenite. 200 to 250 litres of rain per square metre in hours. The ravine above the resort overflowed. Three dead.



Elenite, 3 October 2025

Not a once in a century event. For this province, closer to once every two years.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Flood protection: what it looks like

The barrier on the left is holding back a real flood.



Hyflo BV, Netherlands

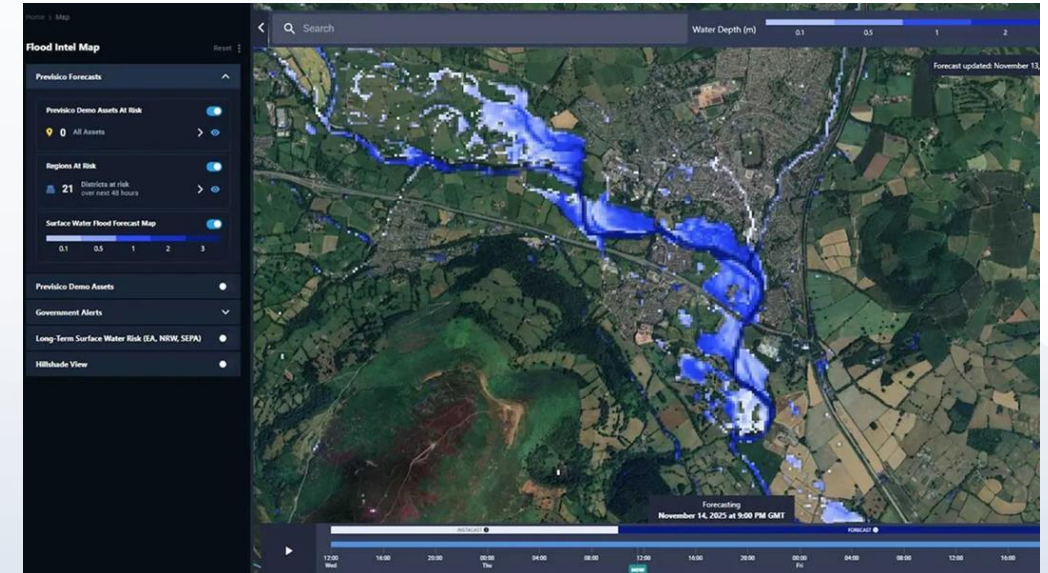
Self-closing barrier, holding water back. No power, nobody on site.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.



Previsico, United Kingdom

Flood warning for one address, two days ahead.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Flood: what you can buy today

SELF-CLOSING BARRIER *Hyflo BV, Netherlands*

Built into the ground across a doorway or gate. The rising water lifts it. No power, nobody on site.

€ 20–100k

per barrier

One flood

pays for it

€ 1m+

of assets protected

One or two barriers at the doors that flood, not a sea wall. For a depot, the loading door.

FLOOD WARNING BY ADDRESS *Previsico, United Kingdom*

Watches rainfall and river levels and says whether one building will flood, two days ahead.

€ 30–150k

per year

48 hours

warning

One site

not the city

Enough time to move stock and close the barriers. The Environment Minister says this area has no weather stations.

These stop the water. They do not pay for the damage when it gets in anyway.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Flood: how many companies are in the flood zone

We checked every registered company in the province against the EU flood map.

Companies checked across Burgas Province

1,021 companies

Inside the area the EU model says floods every 50 years

146 companies

Of those, how many are in Burgas city itself

104

WHAT THIS MEANS

About one company in seven is in the flood zone.

Most of them are in Burgas city. Together they employ over 11,000 people.

The barriers and warnings on the last slide are for these companies. So is the insurance on the next one.

Source: EU flood hazard map (JRC), 50-year flood. © European Union. This is an area check, not a survey of any single building.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Insurance that pays out in days

	Normal flood insurance	This kind
What starts the payment	Damage, once you prove it	A measurement at your site
When you get the money	Weeks or months, after an assessor visits	Within days.
What you have to do	File a claim, negotiate	Nothing. It is measured for you
How much you get	Whatever the assessor decides	Agreed before anything happens
The risk you carry	The assessor may value it lower than you do	No trigger, no payment, even if you flood

Money in three days and money in three months are not the same product.

Hristo Charkov, GreCo Bulgaria, at 10:20: what it costs, how it works and how you can benefit.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Wildfire: what it leaves behind

The line between the trees that burned and the trees that did not is the whole problem.



Credit: add before use



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Wildfire: the one that needs public and private together

The clearest public-private case in the district, and the clearest pipeline of work.

WHAT FIRE COSTS THIS DISTRICT

€ 25–42m

estimated loss of business, district-wide

Worst areas: Kameno, Aytos and Sredets.

No business will fund this alone. So it happens with public money, and the work goes to firms in this room.

WHY NOBODY BUYS IT ALONE

A sensor network protects every business on the hillside.

If one farm pays, the neighbours are protected too. So no farm pays first.

It gives the most protection per euro of anything we looked at, and it is the only measure with no private buyer.

*Synthetic difference-in-differences on firm counts, valued at EUR 15,000 to 25,000 per firm.
Order-of-magnitude estimate. TICCA4Danu WP2, 2026.*



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Wildfire detection: what it looks like

Small, solar powered, fixed to a tree. Alerts go to the fire service.



Dryad Networks, Germany

Solar sensor on a tree. Detects smoke in minutes.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

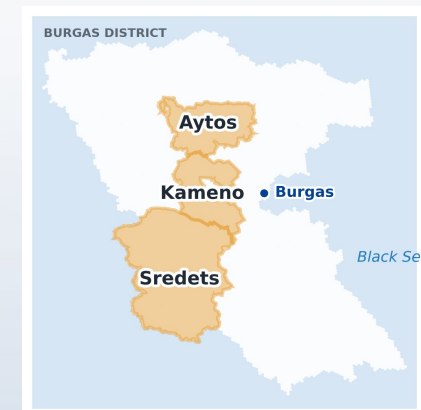
Wildfire: what a pilot would look like

Kameno, Aytos and Sredets. Detection in minutes instead of hours.

Supplier shown: Dryad Networks, Germany.

Small solar-powered sensors fixed to trees. They pick up smoke within minutes and alert the fire service before anyone sees flames.

WHERE	Kameno, Aytos and Sredets
COST	€ 10–30k for one network
WHO BENEFITS	Farm cooperatives, and the Union of Grain Producers
WHO OPERATES IT	The fire service. Alerts go straight to them.
WHO PAYS	EU LIFE, civil protection funds, regional fire budgets



Boundaries © OpenStreetMap contributors, ODbL



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Wildfire: what we need from this room

HERE TODAY	HERE TODAY	TO INVITE
Union of Grain Producers Speaks for cooperatives across Kameno, Aytos, Karnobat, Sredets and Ruen. The Chairman is here today.	Regional Administration Here today. Coordinates civil protection and can bring the three municipalities together.	Local fire services Kameno, Aytos and Sredets fire departments. The alerts would go to them.

What we ask: 30 minutes, all three together, within four weeks. We set the date today.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Most climate damage in Europe is not insured

ACROSS EUROPE

1 in 4

of climate damage is covered by insurance

EIOPA Dashboard on Insurance Protection Gap, losses 1980 to 2024.

under 5 %

in some EU countries

EIOPA and ECB, joint work on the climate insurance protection gap.

17 % hold cover for natural catastrophe damage, EU-wide

EIOPA Eurobarometer, 2025.

WHY IT MATTERS FOR YOU

Normal insurance does not reach most Bulgarian businesses at any price.

The insurance on the last slide fits because:

- there is no assessor and no claim to argue about
- payment is set by a measurement, agreed in advance
- it works for businesses insurers usually refuse



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Who pays, and how

Three routes open to a company in this room today. All three are Bulgarian.

1 · YOUR OWN MONEY

Out of the saving

A bank will lend against a predictable energy saving.

UniCredit Bulbank has EUR 100m of new green lending guaranteed by the EBRD, and can combine it with a grant in one operation.

3 · A GRANT

ПКИП

Competitiveness and Innovation in Enterprises

About 2,400 Bulgarian companies were approved in the last year, EUR 105 million.

Micro, small and medium firms. You need an energy audit.

All two require an energy saving.

Heat reaches all of it. Flood protection reaches none, because there is no saving to lend against.

ПКИП procedure BG16RFPR001-2.004, Ministry of Innovation and Growth, Jan and Feb 2026. EBRD and UniCredit Bulbank, Nov 2025.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Three things to do before you leave

1 IF YOU OWN OR RUN A BUILDING

Pick one building and we will run the numbers with you.

Give us a roof area and roughly what you spend on cooling. We come back with your own version of the payback slide.

Come and find us at the break.

2 IF YOU BUILD OR SPECIFY

Want an introduction to any of these suppliers?

Cool Roof France, Hyflo, Dryad, Previsico. If you want to talk to any of them about supplying or fitting this work, we will make the introduction.

Leave your name at the break.

3 IF YOU REPRESENT MEMBERS

Would your chamber host a group policy?

The insurance needs an association to hold it.

Tell us at the break.



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Coming up next

10:20, same room

Flood insurance in detail

Hristo Charkov, GreCo Bulgaria. What it costs, how it would be built here, and where it does not work.

11:00, discussion

Your turn to speak

What would make one of these worth doing? What stops you today? What do you need from the municipality?

Thank you

Miha Škrokov, Anteja ECG



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA.

Neither the European Union nor the granting authority can be held responsible for them.

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).