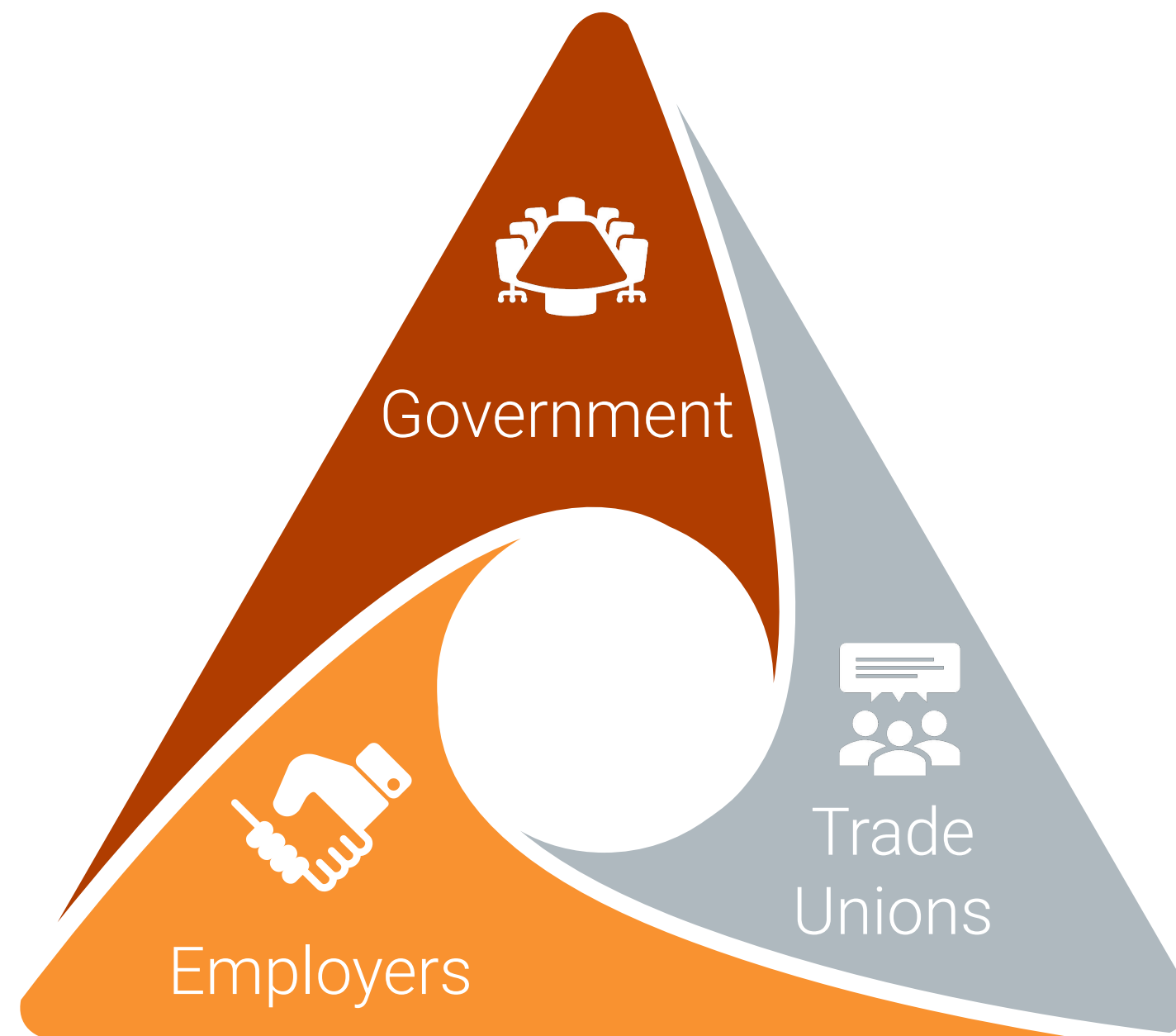




# Applying an automated tool for impact evaluation of active labour market measures – MALLE

Reelika Leetmaa  
April 28th 2022

# Estonian Unemployment Insurance Fund – who we are and what we do?

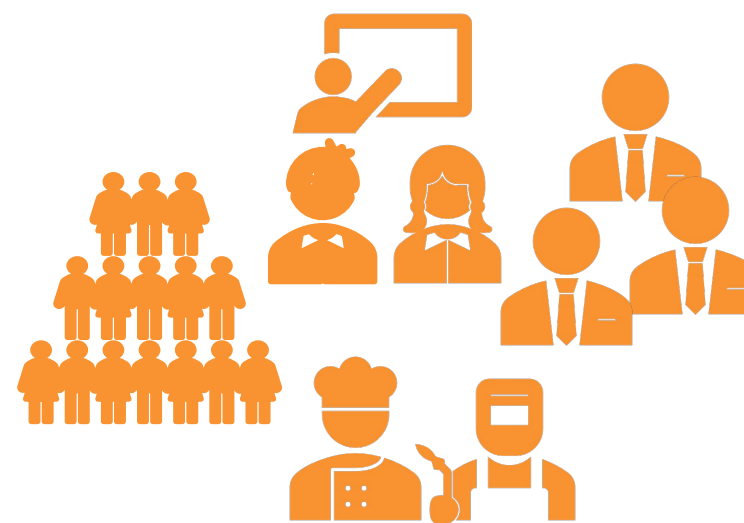


Independent public body with tripartite **management**



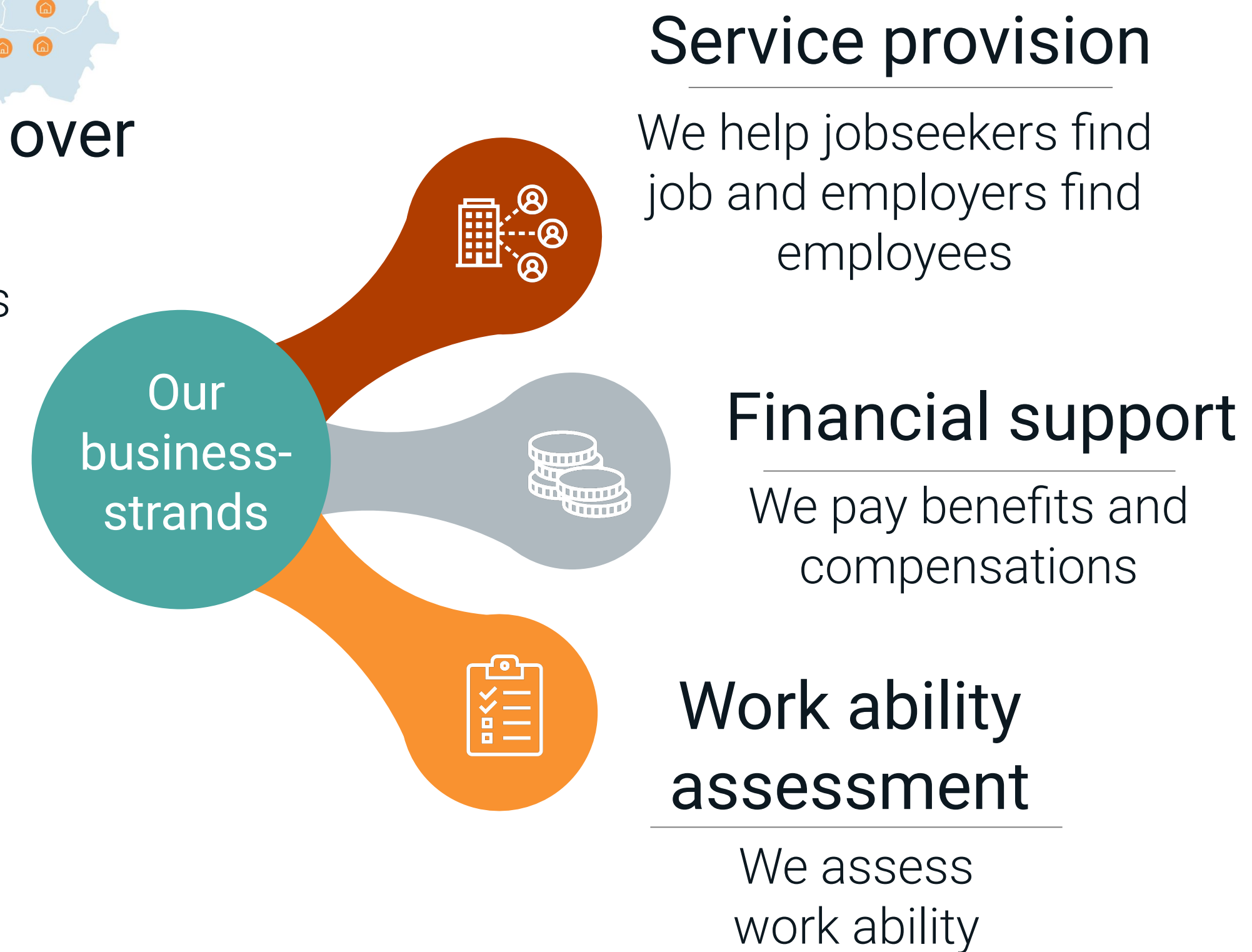
**Service-points all over Estonia**

~1000 employees

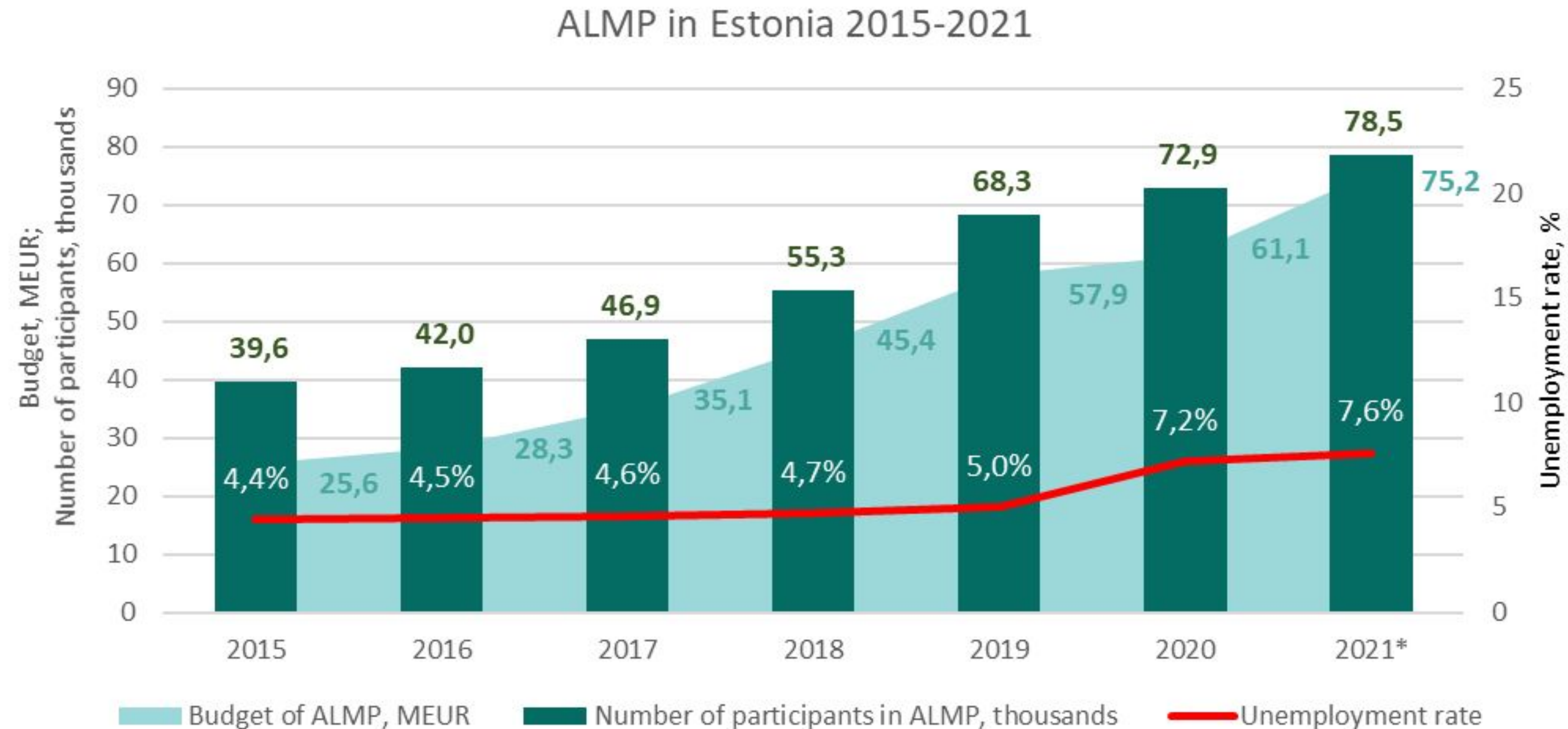


**Our clients:**

- Jobseekers
- People in employment
- Young people/students
- Employers



# Spending on active labour market measures (ALMP-s) increasing, need to know what works for whom



\*forecast.

# Automation of ALMP evaluation – MALLE (MAchine Learning in Labour Economics)



- Inhouse model built jointly by analysts of EUIF, AS Nortal and University of Tartu
- Programs evaluated
  - Labour market training including vocational training, Estonian language training, computer training, general skills training
  - Work practice
  - Wage subsidy
  - Work-related rehabilitation
- Data on registered unemployed from January 2014 to December 2020 from EUIF registries and earnings data from the Estonian Tax and Customs Board
- Methodology: propensity score matching and exact matching combined with regression adjustment



# How it works?

Command files automatically  
access data in DWH and  
preprocess it in R for evaluation



Command files construct treatment  
and control groups in R and  
perform statistical matching



Tableau software visualises  
evaluation results and calculates  
the effect of training on  
employment and earnings

# Dashboard – some examples

## Impact of active labour market measures

Select output variable

Employment

Select attribute

No attribute selected

Select values to display

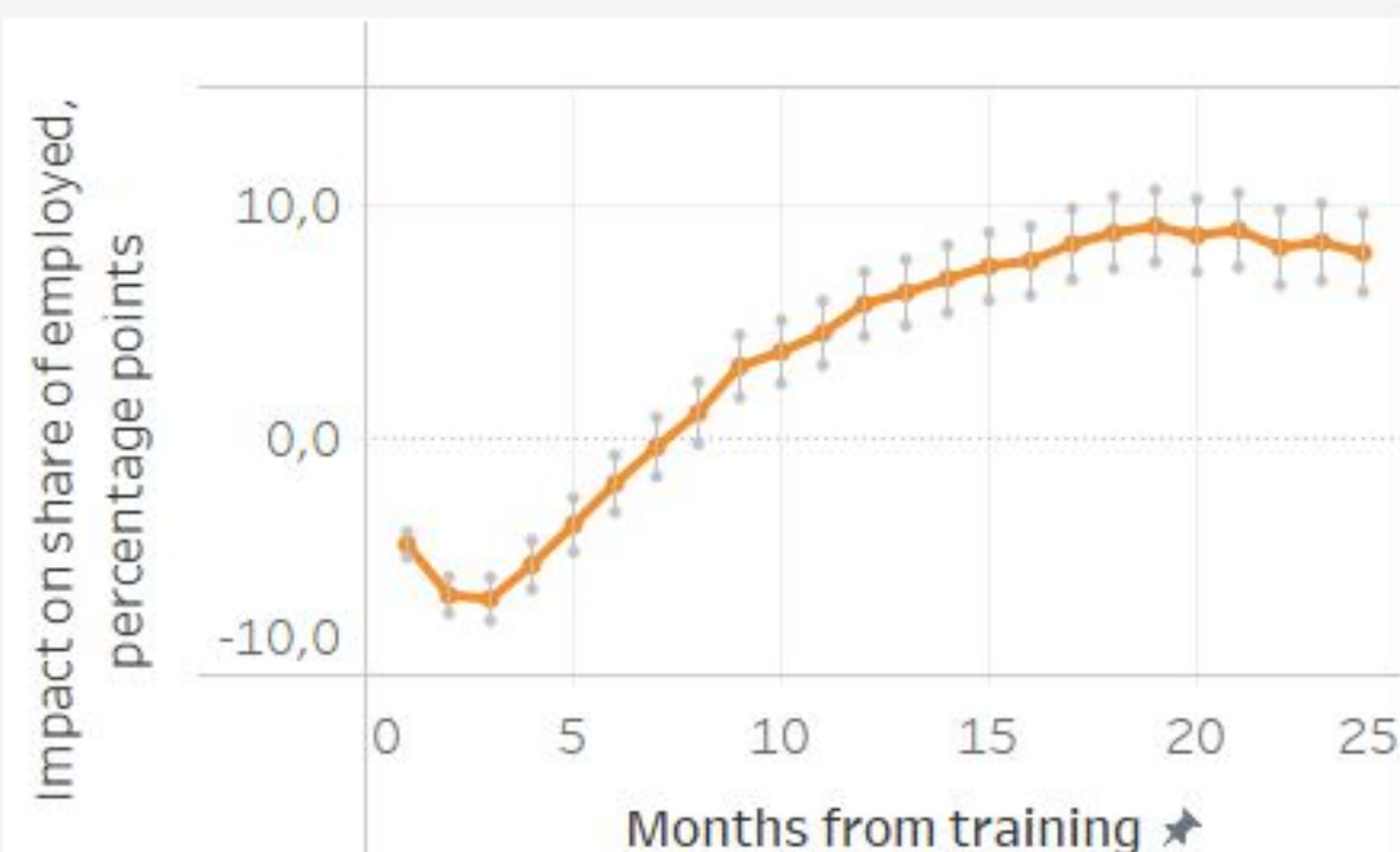
(All)

Include data since

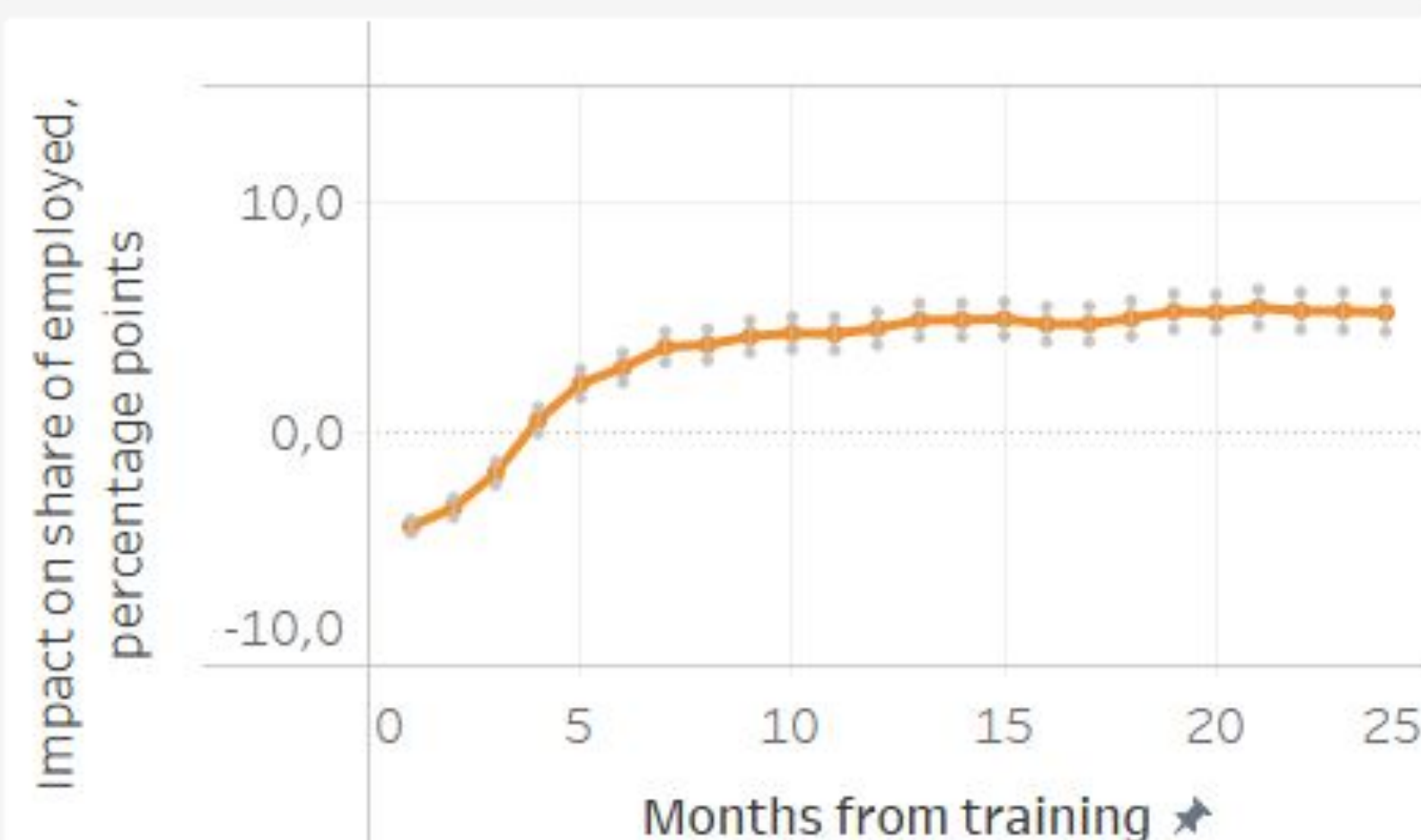
2014



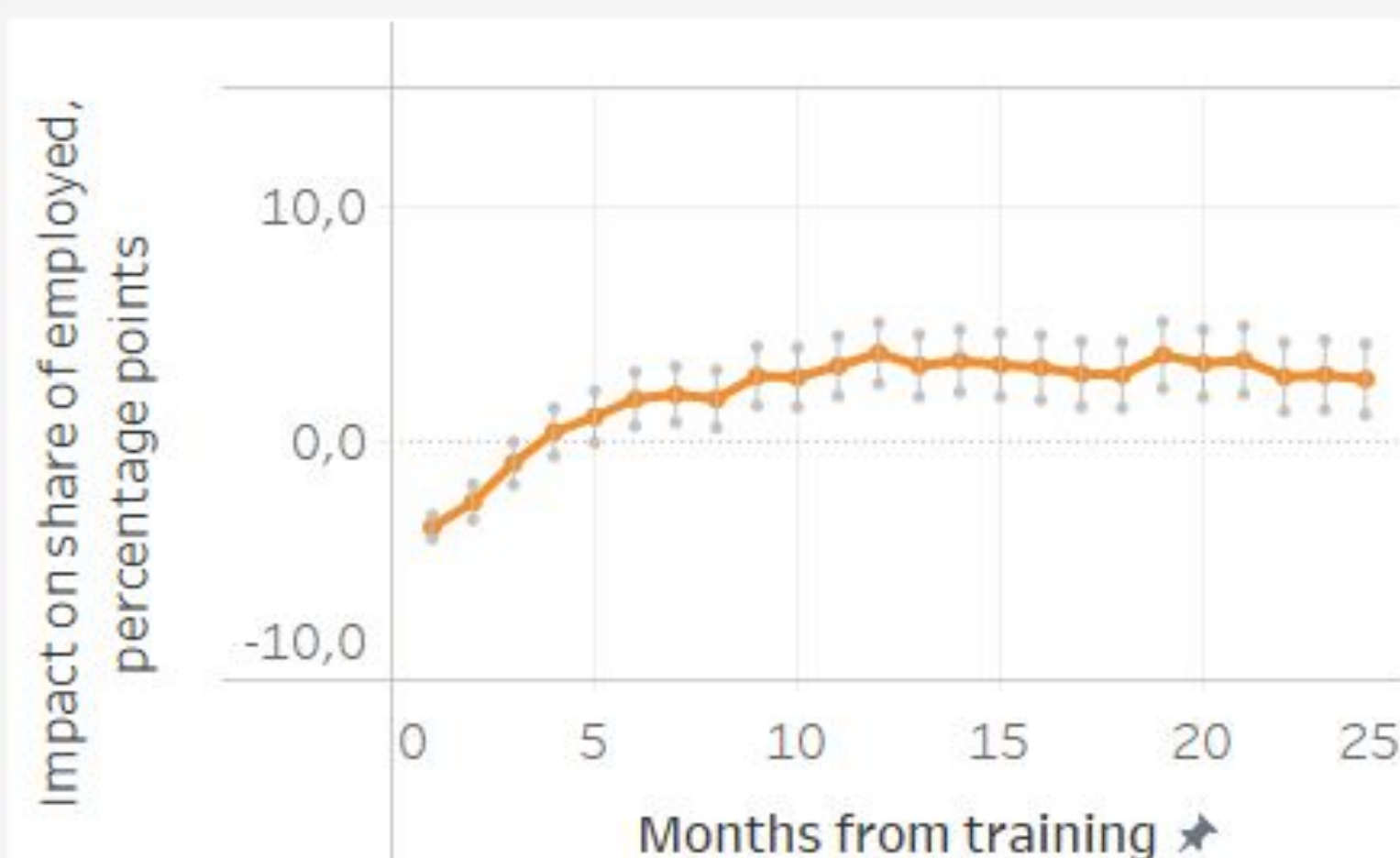
Estonian language training



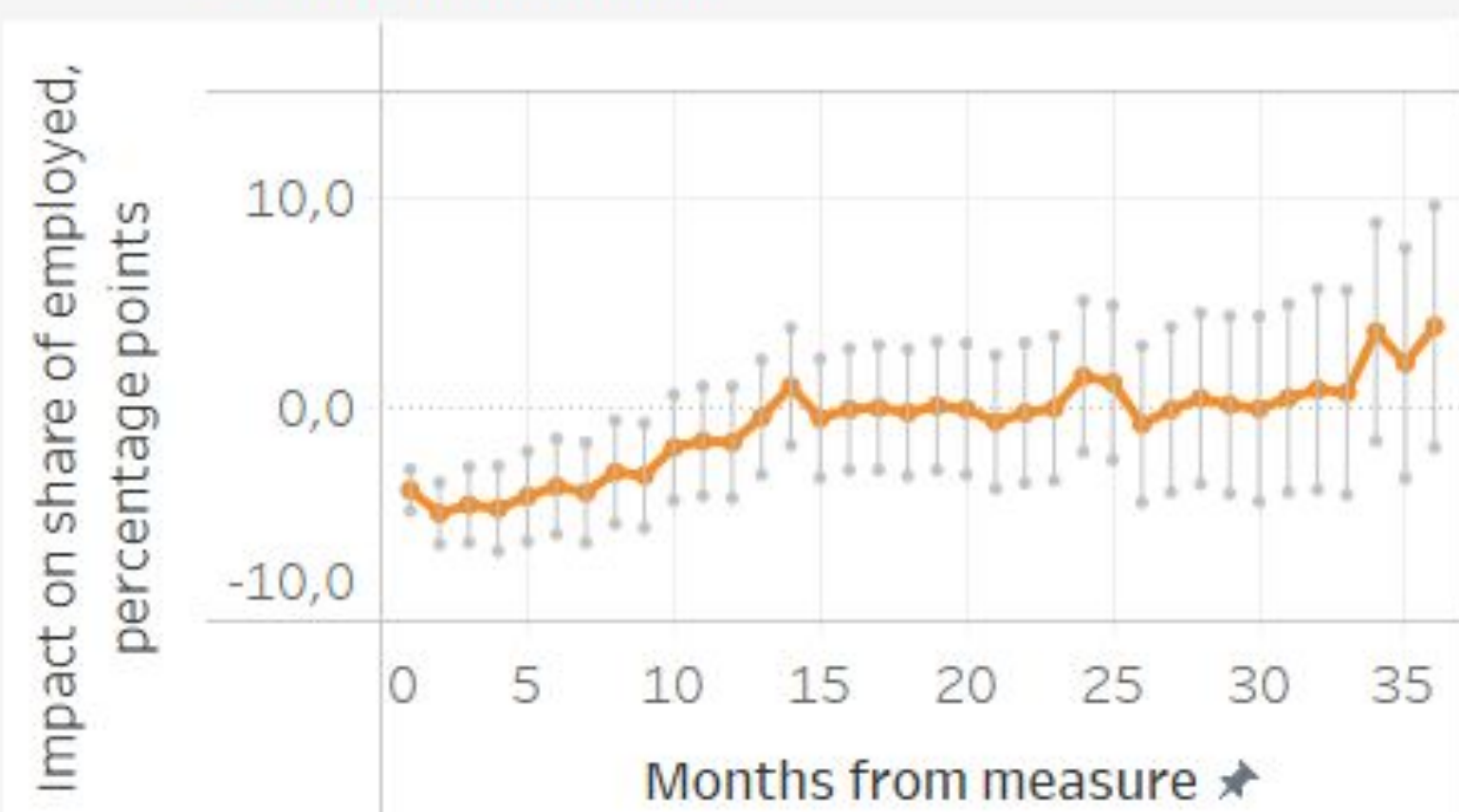
Vocational training



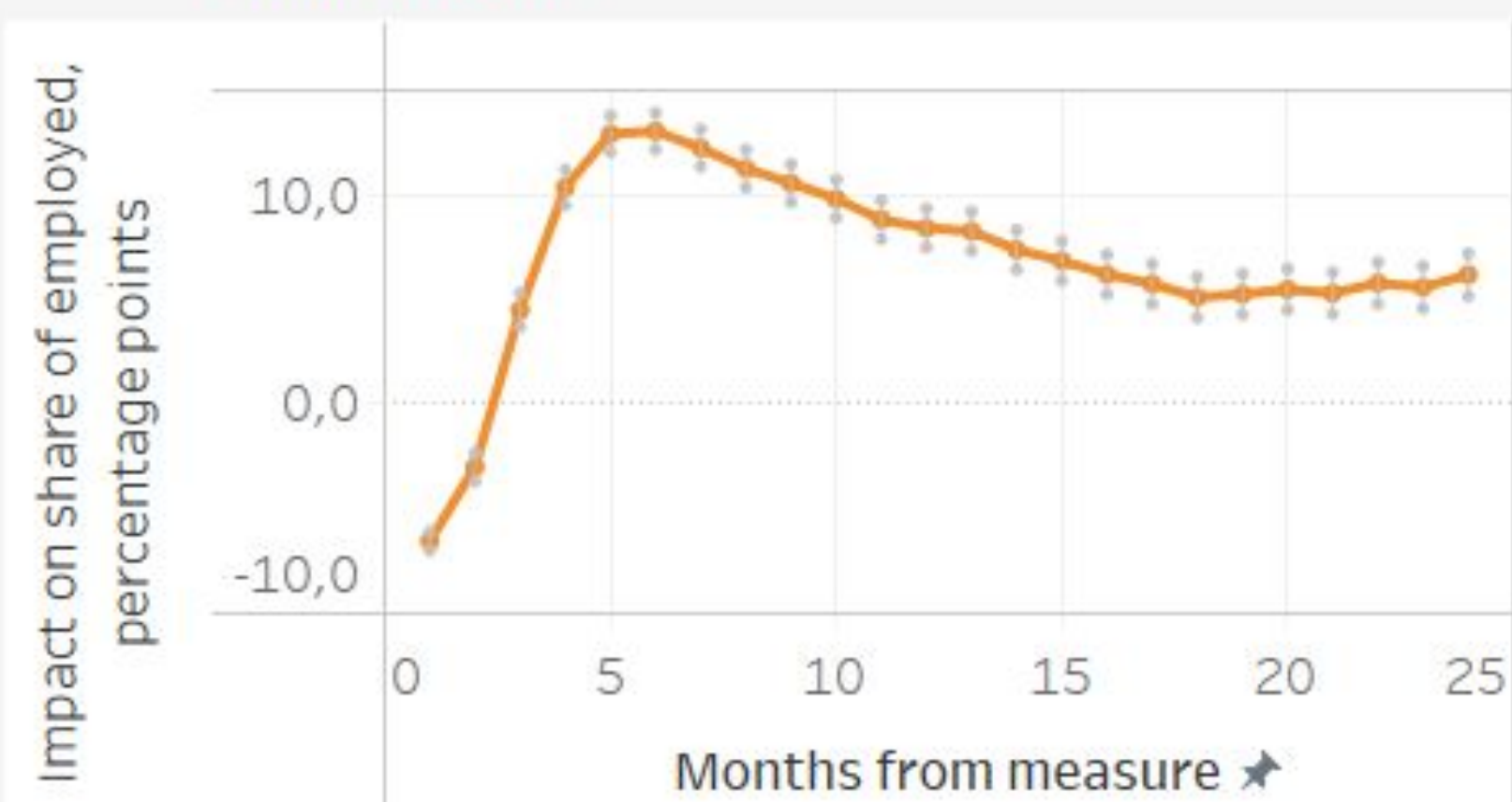
Computer training



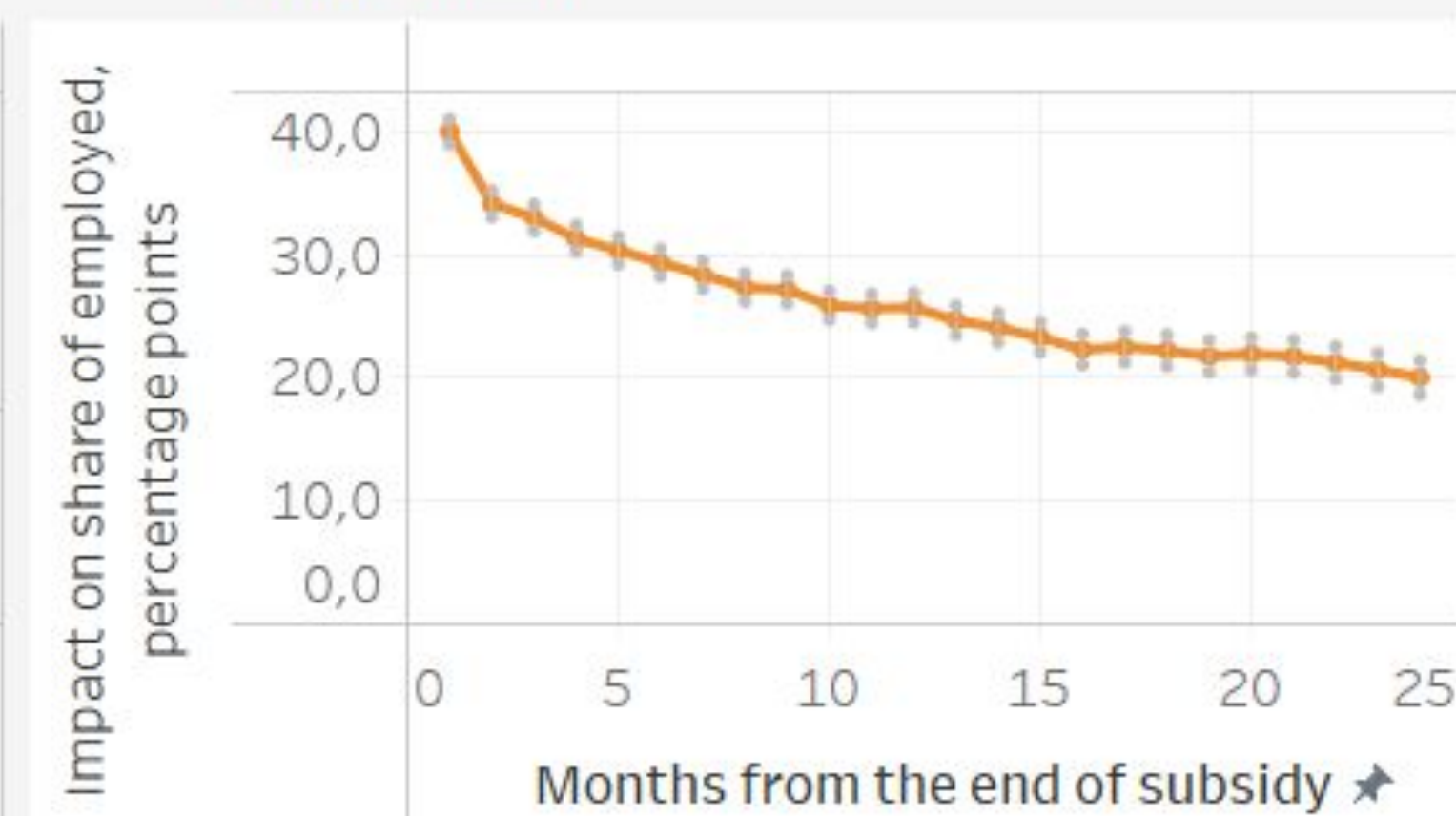
Work rehabilitation



Work practice



Wage subsidy



NB! Only data points with at least 50 participants are displayed.



## Impact of active labour market measures

Select output variable

Average wage if employed

Select attribute

No attribute selected

Select values to display

(All)

Include data since

2014

### Estonian language training



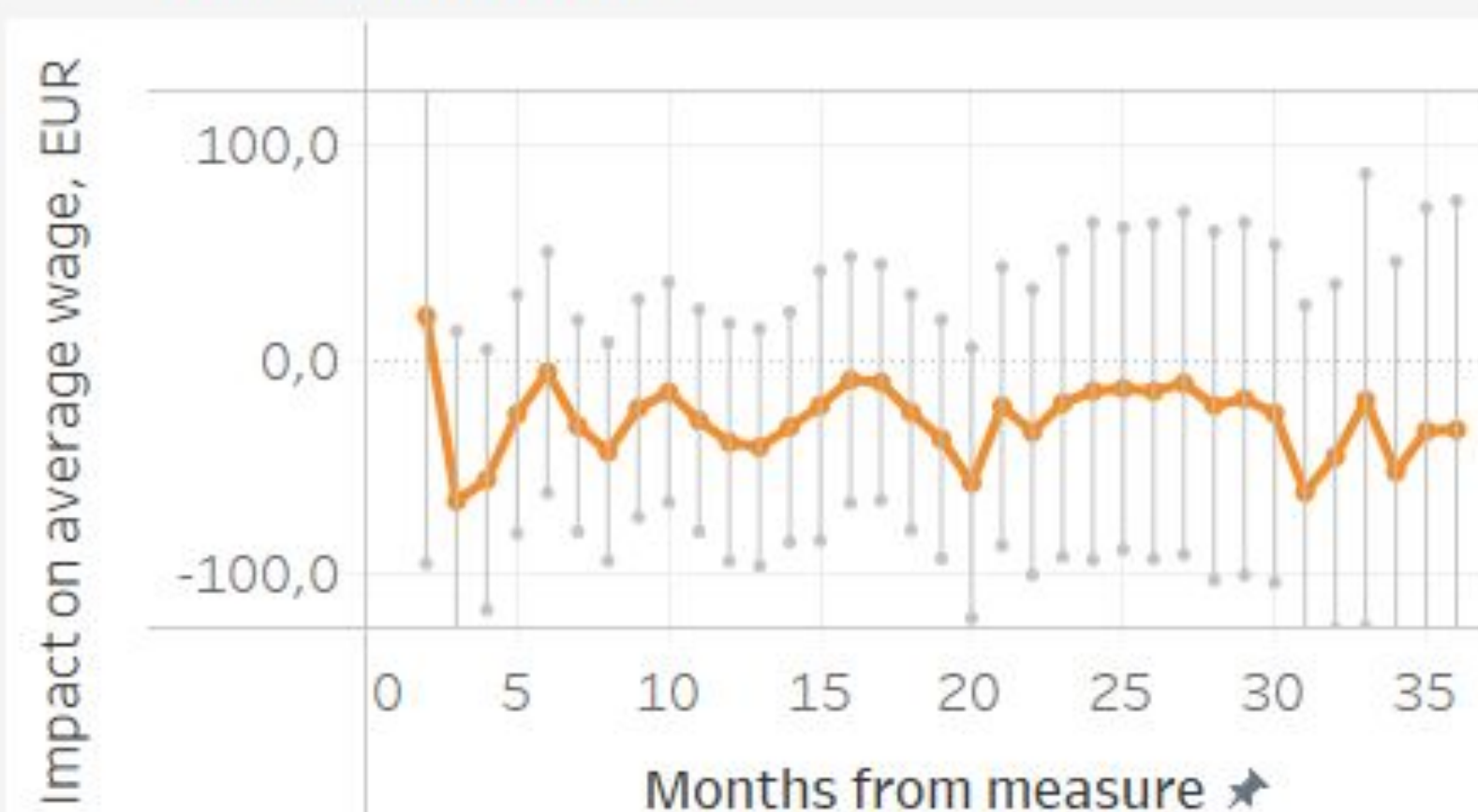
### Vocational training



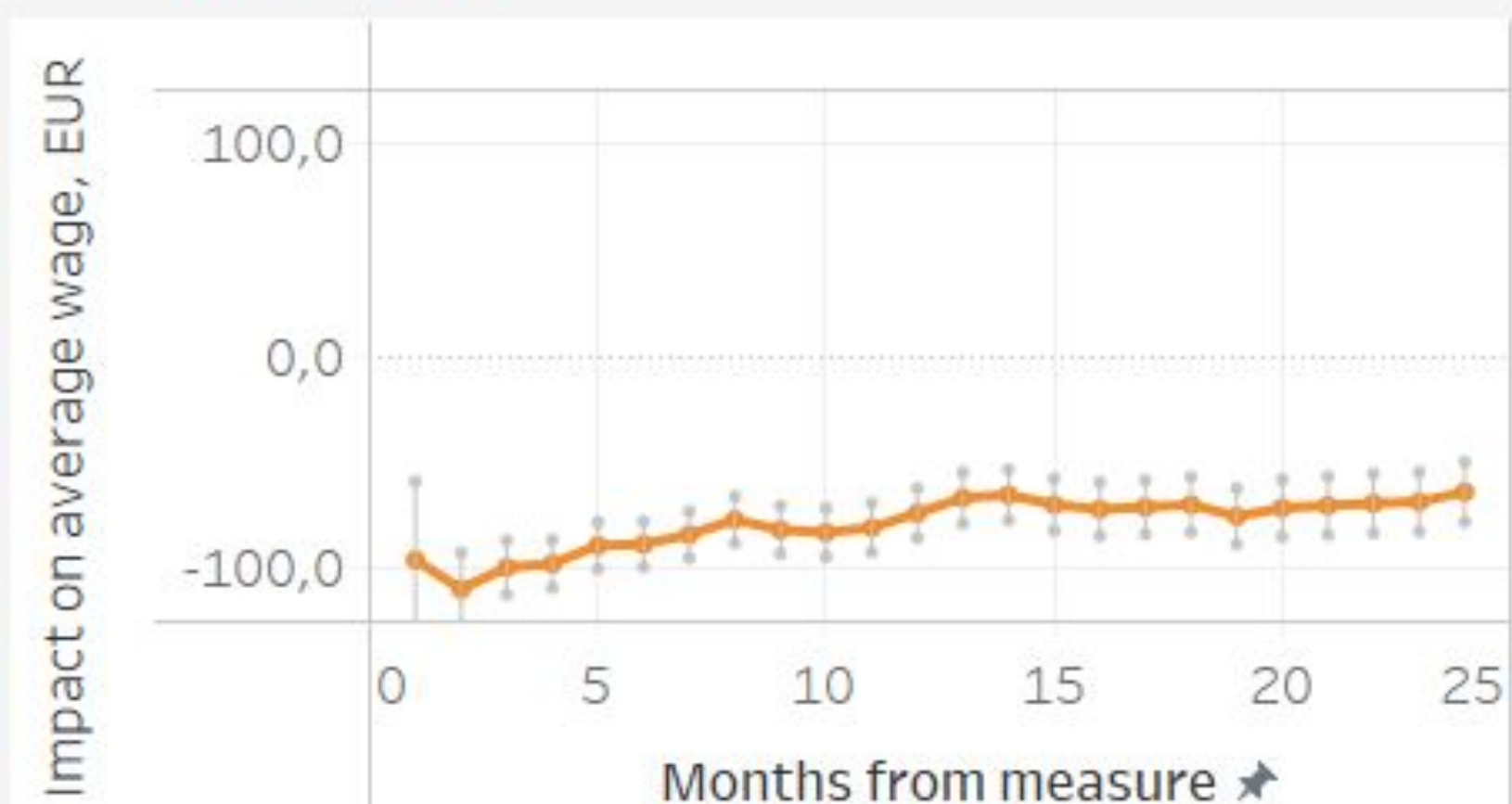
### Computer training



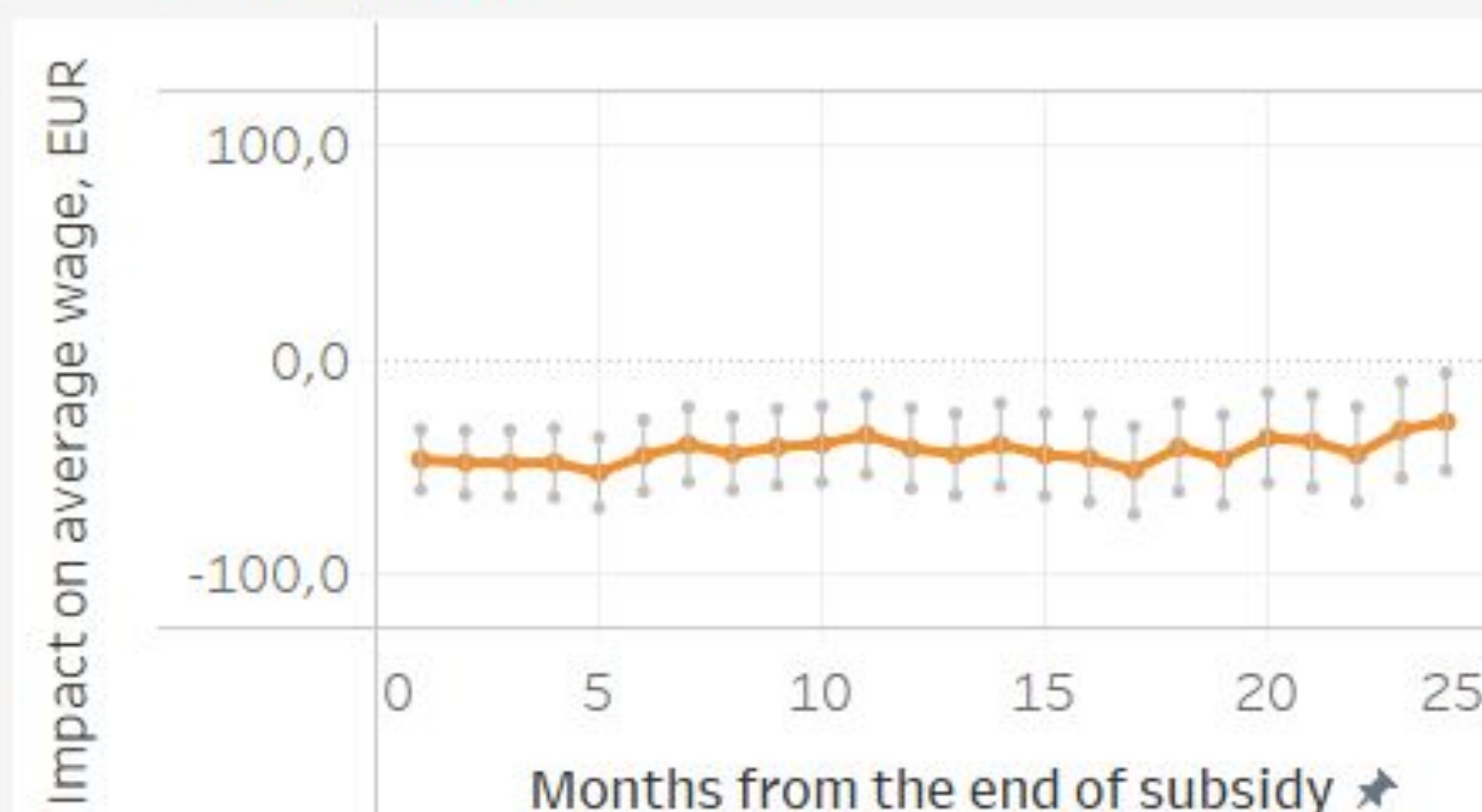
### Work rehabilitation



### Work practice



### Wage subsidy



NB! Only data points with at least 50 participants are displayed.



# Vocational training – effects on subgroups

Year



Gender



Age



Estonian language risk group



# Conclusions and steps ahead

- Regular information on impact of the programs
  - Due to small number of observations, it is not possible to go into details
- Suitable data infrastructure and data are needed
- Need to incorporate MALLE fully to our business processes, develop further relevant dashboards and increase awareness within organisation
  - Foremost a tool for managers
  - Counsellors expect to get personalised suggestions about suitable labour market services to their clients
- Future plans
  - Developing further cost-benefit analyses
  - Incorporating new services – training measures for employed
  - Evaluating the impact of unemployment insurance benefits on the duration of unemployment



# Thank you!

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