



Latvia University  
of Life Sciences  
and Technologies

# FACULTY OF FOOD TECHNOLOGY AND SCOPE OF ACTIVITIES

Latvia University of Life Sciences and Technologies



Head of Technology and Knowledge Transfer Centre

Professor of Faculty of Food Technology

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TASK 2.1. RECOGNIZING THE CONDITIONS FOR COLLABORATION: STUDY VISIT TO LATVIA, 1<sup>ST</sup> JULY 2021

# Study and Science Center of the Faculty of Food Technology

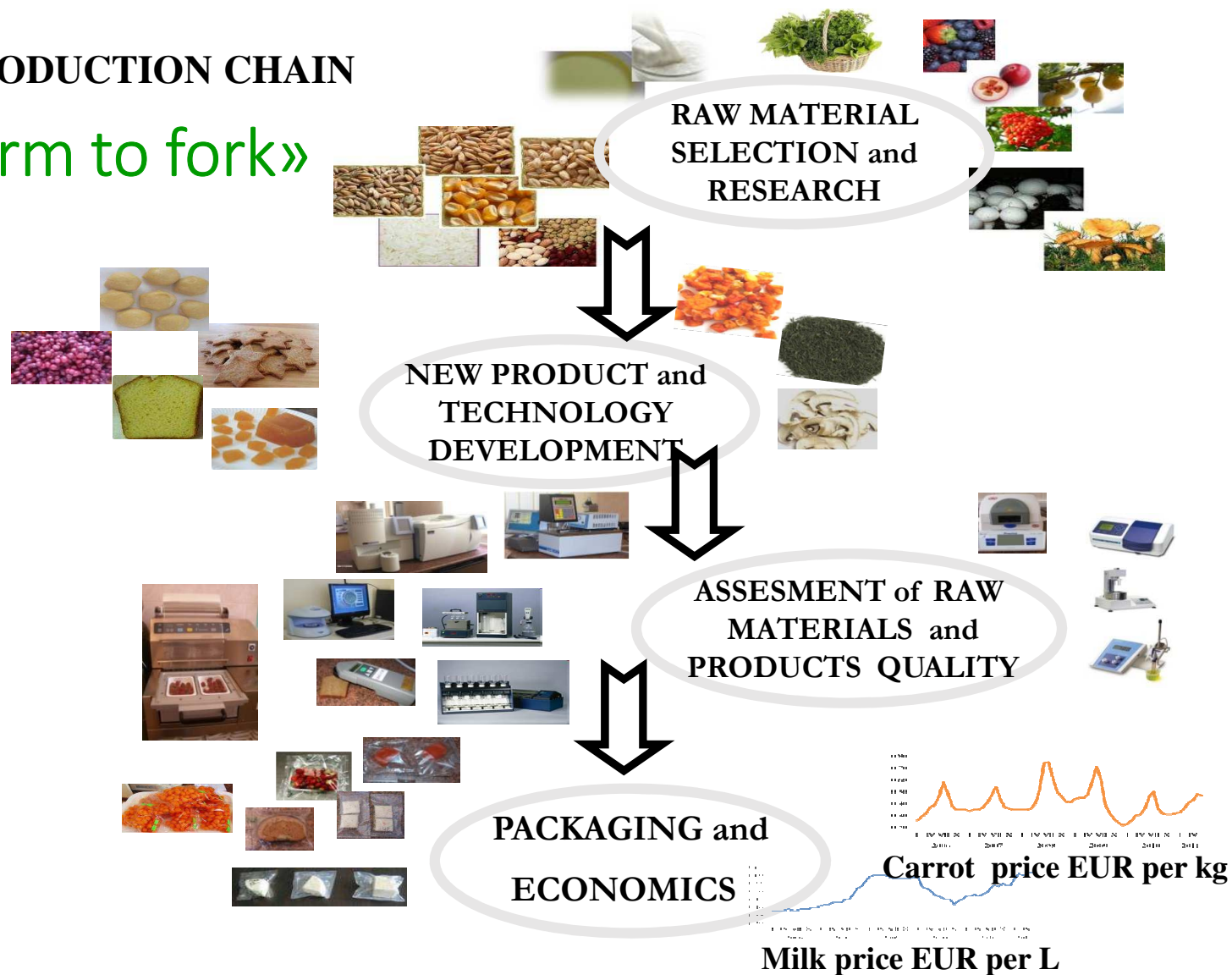


- Suitability, use for processing and production of novel products of non-traditional food materials, including by-products
- Options for increasing the nutritional value of vegetable products
- Professional competencies of hospitality workers
- Sensory evaluation of food and exploring the structural characteristics
- Solutions to reduce food waste
- Food storage regime and time optimisation

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# FOOD PRODUCTION CHAIN

«from farm to fork»



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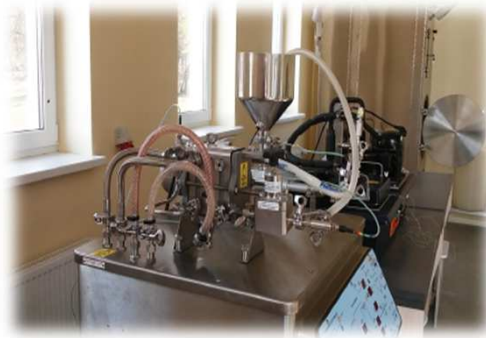
- **Faculty of Food Technology** is the center of studies and science with more than 65 years of experience



high pressure processing equipment



microbrewery



heat exchanger-pasteurizer



meat processing plant

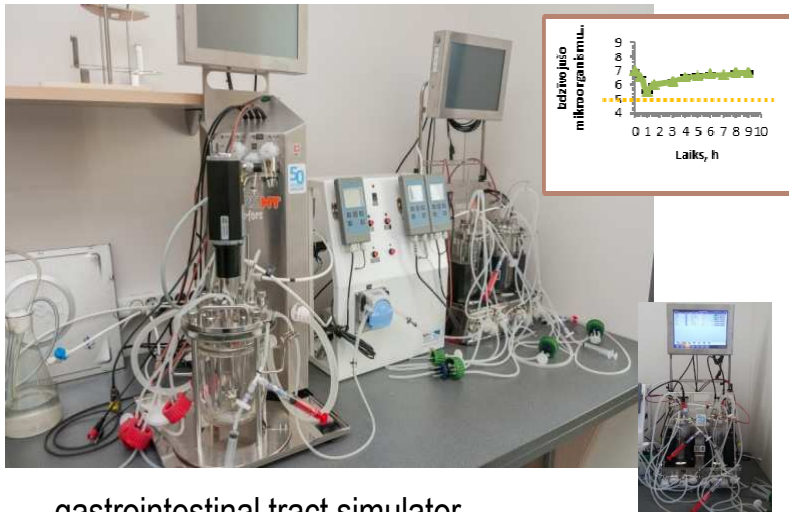


evaporation unit

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gastrointestinal tract simulator



sensory evaluation laboratory

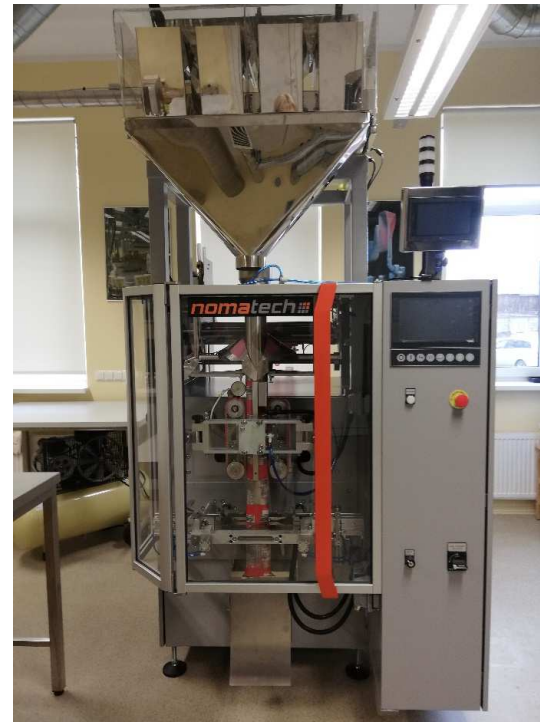


Testing of product safety, microstructure, including biologically active substances

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- **Packaing laboratory**

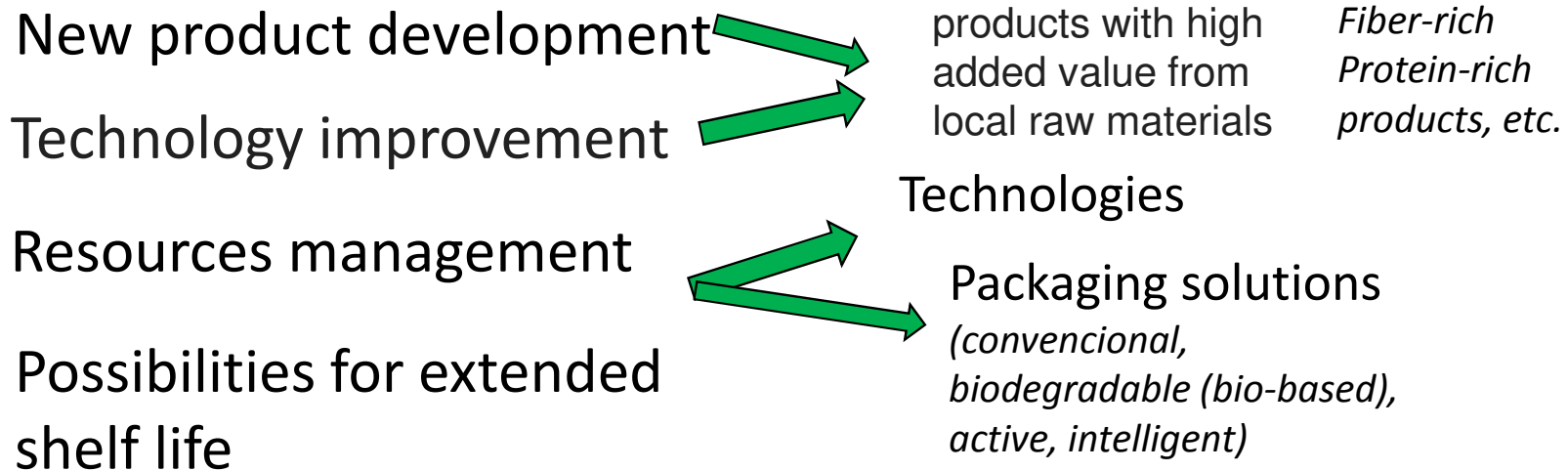


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Market type analysis

Food quality assessment and testing

We also compare the quality of similar products produced in different countries



**Cooperation forms:**

- **Companies seeking cooperation to develop innovative products**
- **Scientific bodies for the development of joint scientific cooperation**





**FREE FROM**  
**WHEAT**  
**GMO**  
**PRESERVATIVES**  
**OIL**  
**NUTS & EGGS**

**Grain Flakes MILZU!**  
**Ltd. "MILZU!"**



SIGNIFICANT ACHIEVEMENT 2015  
 TOP 10



THE BRAND OF THE YEAR –  
 LATVIA 2014



EXPORT EXCELLENCE AWARD  
 "THE RISING STARS" 2015



IMPORT REPLACEMENT  
 PRODUCT 2015



RED DOT AWARD  
 2016 winner

**HIGH NUTRITIONAL VALUE GRAIN PRODUCTS**



reddot award 2018  
 best of the best

**Cereal Mixes "Musli Graci"**  
**«Felici», Ltd.**



- RYE**
- Concentrated **source of fiber**
  - Rich in **natural minerals and vitamins**
  - Contains **lignans**

- GRACI products all are developed in cooperation with Latvian and Norwegian scientists and tested at German Laboratories
- main focus is on natural high nutritional value
- functions of the products are all based on studies and clinical trials have been performed

**OATS**

- High in **beta-glucan**
- Loaded with **important vitamins**
- Making **feel more full**

**Buckwheat flour as basic raw material for production of functional food products**

**SUGAR**

- Reduced sugar

- Extruded buckwheat snacks
- Waffles
- Pancakes

**FREE FROM**  
**Gluten**  
**GMO**  
**EGGS**



## PRODUCTS WITH INCREASED PROTEIN CONTENT



**FREE FROM**  
 Allergens  
 Food additives  
 Yeast  
 Added oil  
 Added sugar

### CHICKPEA CRACKERS

Ltd. "Krippu"

chickpeas + herbs + seeds + vegetables

High in vegetable protein! (25%)

High Fiber! (13%)



Extruded products from legumes



Roasted Faba Beans  
 Ltd «ZEKANTS»

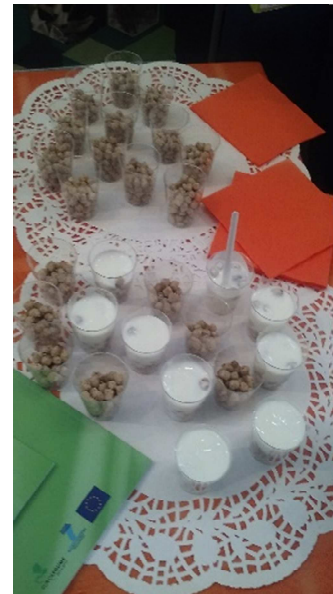


- High in plant protein
- Vit: A; D; K; B<sub>12</sub>

**Dairy FREE beverages**

Plant based drink «Happea»

Ltd. «Nature Foods»



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# READY MEALS WITH REDUCED AMOUNT OF SALT AND SUGAR AND LONG STORAGE TIME



**Creation of innovative products from Baltic Sea fish**



These ready-to-eat products are produced using a specific technology – peeled and cut vegetables are steamed in their juice in the vacuum packaging



**Processed Vegetable Products**  
Ltd. "Paplāte Nr.1 ", Ltd. "Nissi"

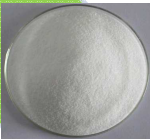
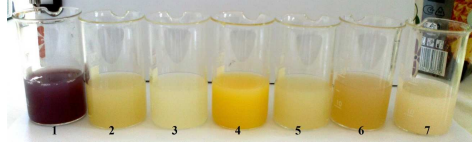
Sterilized soups and soup concentrates with long shelf life in flexible packaging



**Soups**  
Ltd. «Kronis»



# INNOVATIVE DAIRY PRODUCTS



Whey

- Fermented drink from whey
- Ice cream from whey and pumpkin

Functional food

- Ice cream from decreased lactose content from whey
- Yoghurt with germinated grains
- Ice-cream with lactobionic acid
- Yoghurt with immaturated grains

Products with added value

- Lactobionic acid
- Products from colostrum



**Cheese balls «ARCH»  
Ltd. «VZM»**

It is made from cheese and curd whey and is a high-quality dietary product



**Milk protein drink «Piena spēks»  
Ltd. «Smiltenes piens»**

PROJECT “The edible coating formulated with liquid acid whey protein and bioactive compounds, and biodegradable packaging for safety of probiotic cheese” (EEZ3) Nr. LT08–2–LMT–K–01–046 (BIOCOAT) 01.01.2021. – 31.12.2023.) **European Economic Area Financial Mechanism / Norwegian Financial Mechanism.**

# INNOVATIVE FRUIT, VEGETABLE AND BERRY PRODUCTS, AS WELL AS BEE PRODUCTS



**Baby food**  
Ltd. «Lat Eko Food»



**Fruit, berry and vegetable purees**  
Ltd. «Keefa»

- 100% natural and organic ingredients
- No GMO
- Great snack at any time of the day
- Contains Jerusalem artichoke
- Source of fiber, inulin
- No or low amount of added sugar



**Chewing bee bread pastilles**  
Ltd. "Bee Bite"

- Omega 3-6-9;
- All amino acids (both essential and non-essential);
- Vitamins A, B (except B<sub>12</sub>), C, D, E and PP, K;
- Huge variety of micro-, macroelements such as
- Fe, Ca, Mg, Mn, Cl, P, S and many others



**Organic herbal tea + fresh squeezed juice from North meadows**  
Ltd. «Dabas Dots»



**Berry bars «Dario»**  
Ltd «Ric Berry»

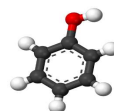


**Apple and pear chips**  
"Garden Snack"  
Ltd "Garden Snack"

**FREE FROM**  
Oil  
Salt  
Food additives

# HORSERADISH – as a source of natural antioxidant

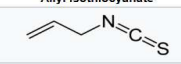
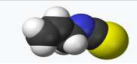
Phenolic compounds



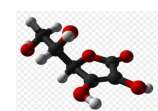
$R-N=C=S$

general structure of an isothiocyanate.

Volatile compounds  
Allyl isothiocyanate

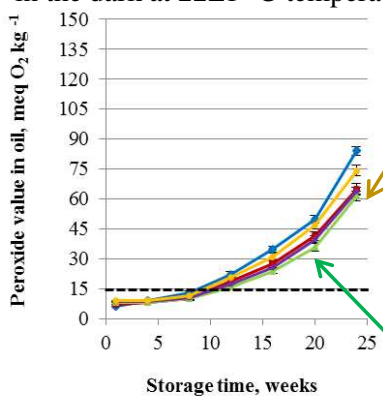



Vitamin C




Primary and secondary antioxidant activity


Rapeseed oil peroxide value in the dark at 22±1 °C temperature




Storage time (weeks)	Control (meq O <sub>2</sub> kg <sup>-1</sup> )	Treated (meq O <sub>2</sub> kg <sup>-1</sup> )
0	~10	~10
5	~15	~15
10	~25	~20
15	~45	~35
20	~75	~55
25	~110	~85


Synthetic antioxidant



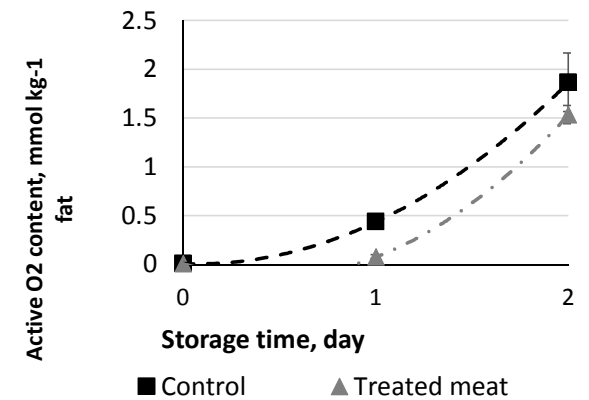




I EGULDIJUMS TAVĀ NĀKOTNĒ



**A compact and eco-friendly method for food antioxidant production using industrial potato peel by-products as the only source material**



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# Models of cooperation

Contracts between:

- scientists and entrepreneurs;
- scientists, entrepreneurs and incubators;
- scientists and associations;
- scientists and authorities;

Projects;

Courses;

Educational seminars;

etc. forms of cooperation.



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Thank you for your attention and  
successful cooperation!



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