



Tikkurila Analyst Day 2015

Role of regulation and sustainability in product development

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- Legislative framework
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Introduction to Tikkurila RDI

Product development

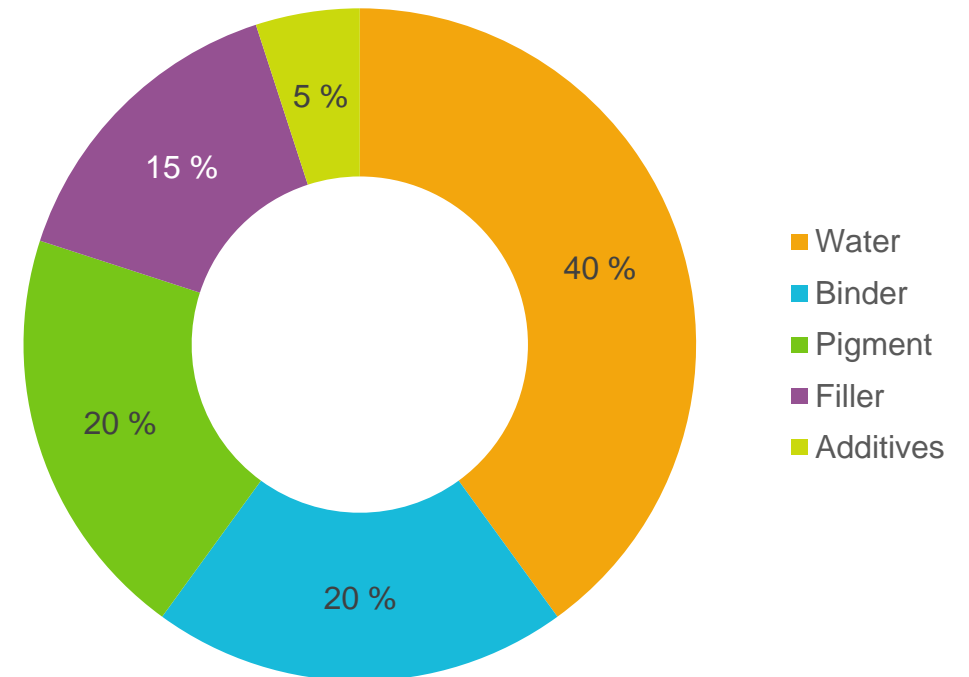
- Key principles for product development: quality, durability and safety.
- Research, Development, and Innovations (RDI) develops products for various purposes and with various functionalities, studies use of alternative and renewable raw materials, and improves properties of existing paints and coatings.
- Largest RDI units located in Finland, Sweden, Russia and Poland. In addition, in each production site a smaller RDI unit that focuses mainly on local operations.
- At the end of 2014, RDI employed 179 (2013: 163) people.
- The desired properties of products are ensured in thorough field testing and extensive laboratory testing.





Composition of paint

- Paint typically consists of binders, pigments, fillers, thinner (water or solvent) and additives.
- More than 80 percent of the raw materials for Tikkurila's units in the EU come from the EU region. In Russia, approximately 50 percent of all raw materials are bought from local suppliers.
- Raw material prices affected mainly by oil prices, supply capacity, and currencies.
- Raw materials are procured at the group level from over 250 local and international suppliers.
- Raw and packaging materials account roughly half of Tikkurila's revenue.



Roles of RDI in Tikkurila



Radical innovations

- Identification of new technologies and materials
- Screening for new partnerships

Services and support

- Technical support
- Education and training
- Analytical services
- Troubleshooting

Product registrations and safety data

- Regulatory compliance
- Statement to customers
- ECO-labelling

Developing, maintaining, and renewing products

- Formulations according to specifications
- Benchmarking
- Technical arguments
- Implementation of sourcing strategies

Trends affecting Tikkurila's business operations



URBANIZATION



AGING OF THE POPULATION



RISE OF THE MIDDLE CLASS



EXHAUSTING NATURAL RESOURCES

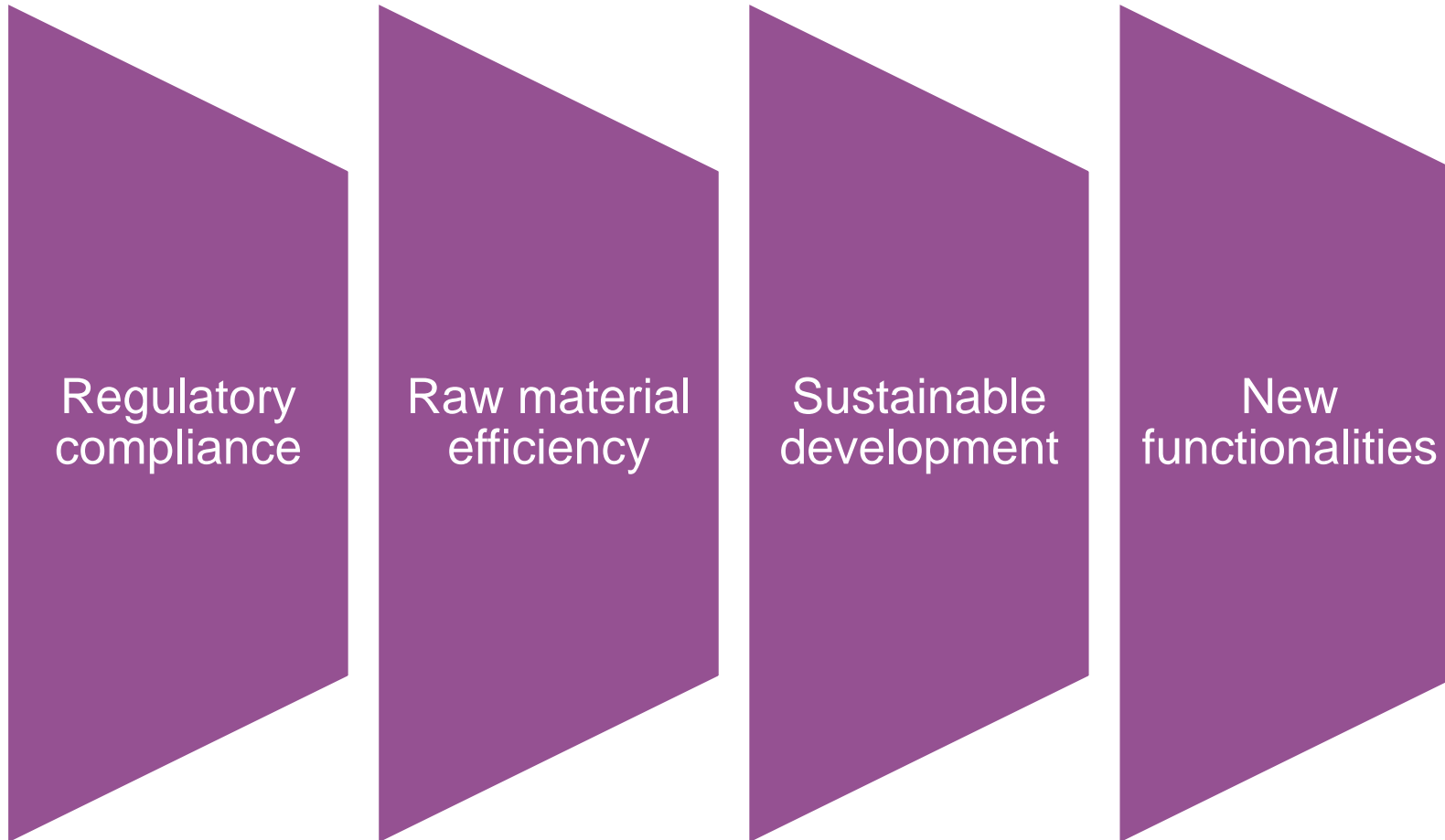


CHANGES IN CONSUMPTION
BEHAVIOR



CLIMATE CHANGE

RDI development framework



- New business areas from new functionalities
- Number 1 in eco- and anti-allergy labeling in all key markets
- Lower number of raw materials and lower formulation costs
- More renewable and alternative raw materials

Innovating with external partners

- Tikkurila is actively developing its offering also through external partnerships and cooperation projects
- Recent examples include a matchmaking program with Tekes (Finnish funding agency for innovation)
 - With the help of Tekes, Tikkurila is looking start-up companies seeking for growth under the title "Surfaces and colors"
 - Tikkurila offers support needed in commercialization of an innovation and speeding up the growth
 - Together with chosen companies Tikkurila will co-develop products/concepts in order to create business that will benefit both companies





Regulatory framework



Increasing regulation

(1)

REACH Regulation

- European Union's regulation on the registration, evaluation, authorizations and restriction of chemicals.
- REACH obligates manufacturers and importers of chemicals to assess the risks related to the use of the product and to provide end-users with the instructions on the safe use of chemicals.
- Paints themselves are not the substances specified in the regulation but raw materials contained in paints must be registered in the EU.
- Paint manufacturers must ensure that raw materials they use in paints comply with the REACH, and they are under the obligation to inform their customers of safe use of the paints and certain substances contained in their paints.
- All raw materials used by Tikkurila in the EU region are – or are to be registered by 2018 – in accordance with the schedule specified in REACH.



REACH roles and responsibilities of different players in the supply chain

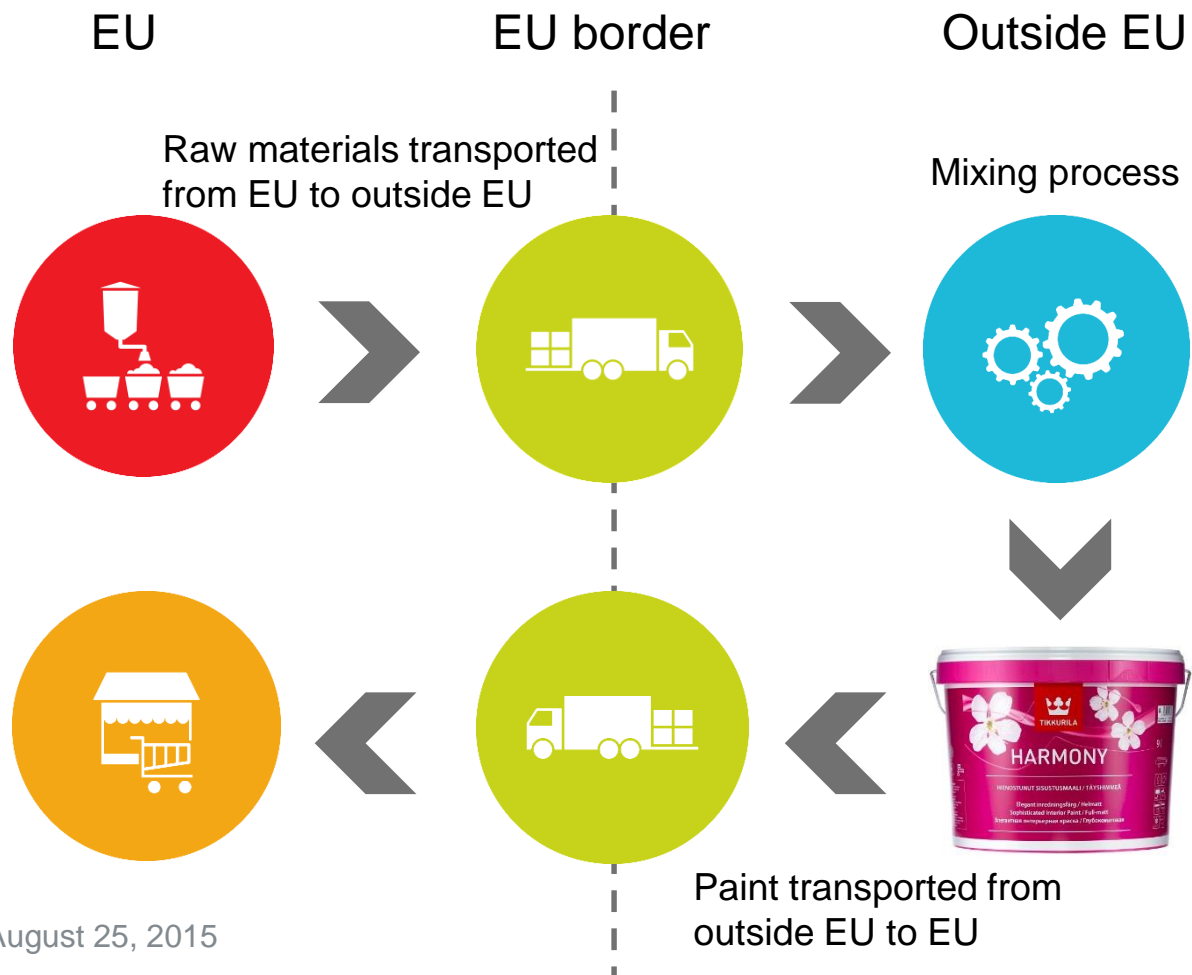
Roles:

- Manufacturer or EU importer is the first company which places the chemical into the EU market.
- Downstream users are using different chemicals and mixtures of chemicals in producing new mixtures or in making objects ("articles" in REACH) professionally. Paint manufacturers and industry using the paints are examples of downstream users.

Registration process:

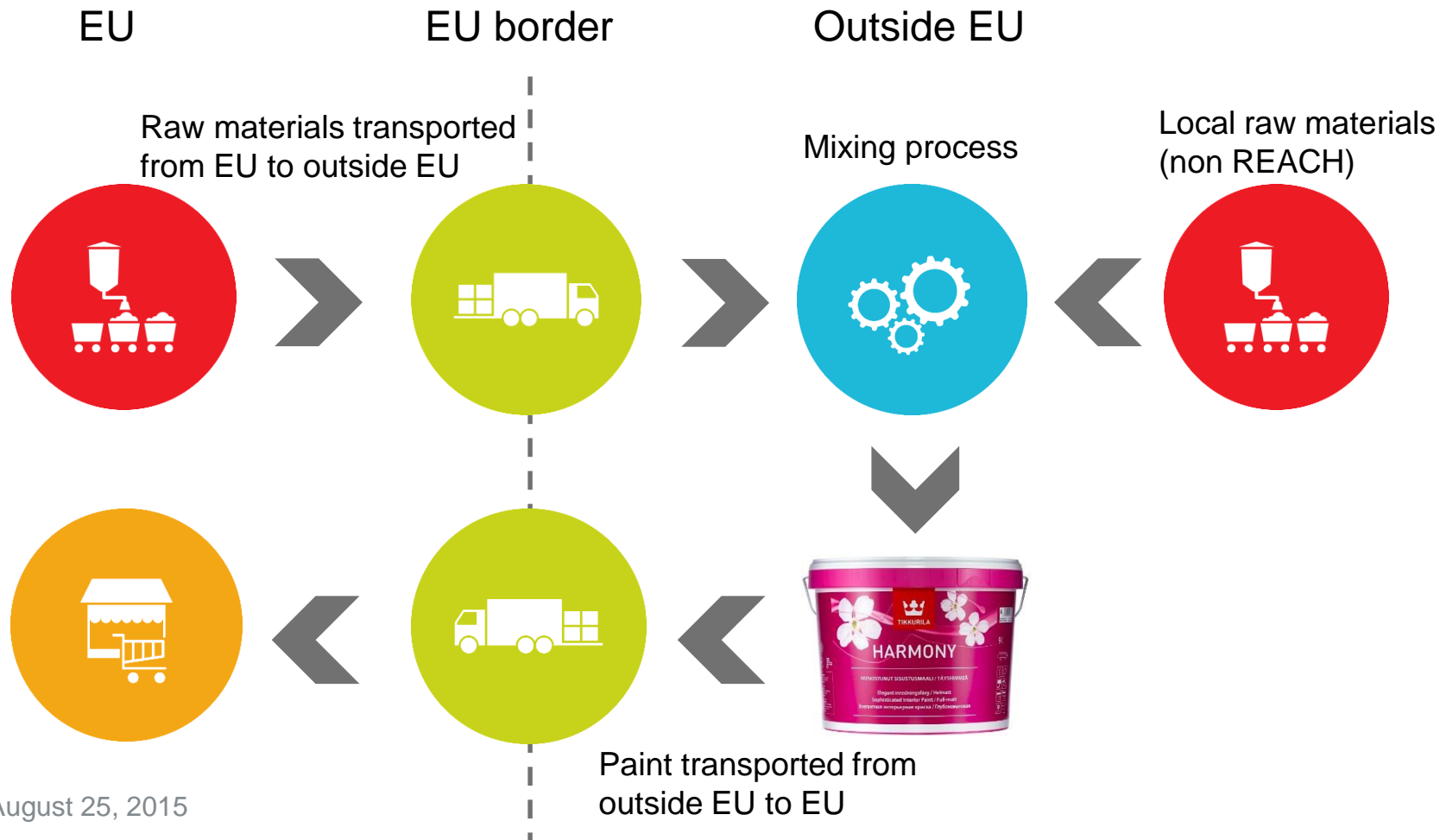
- The registration requires data on the chemical itself, and own test results from the chemical, toxicological and ecotoxicological properties of the substance(s) in it.
- These test results are normally not owned by the downstream user so they need to buy the test results for registration purposes. This can be extremely expensive in some cases. In addition, the registration process requires special knowledge on the registration itself, and it is a time consuming task.
- So in most of the cases it is not economically reasonable for downstream users to register substances themselves – normally the registration is done by the manufacturers or importers of substances (by themselves or by a third party representative).

Option 1: Raw materials from EU with REACH registration



- Requires REACH documentation from EU manufacturers of the substances and raw materials
- Requires specific tracking system by the paint manufacturer for the batch numbers of each raw material exported from EU to non EU into the manufacturing process (at each stage of the process)
- Customs duties and logistics cost

Option 2: Raw materials from EU with REACH registration and outside EU without REACH registration



- Currently not all needed raw materials are available outside EU (need anyway to be procured from the EU)
- Requires everything that is stated on the previous slide plus the REACH registration of locally procured raw material/ substances



Increasing regulation

(2)

CLP Regulation^{*)}

- European Union's CLP regulation concerns the classification, labeling and packaging of chemicals.
- The regulation harmonizes the classification criteria of substances and compounds and the rules governing labeling and packaging.
- To ensure a high level of protection for human health and the environment.
- Along with CLP, the Globally Harmonized System of classification and labeling of chemicals (GHS) will be implemented.
- The warning texts on paint product labels should be replaced by June 2015.

^{*)} Classification, labeling and packaging regulation 1272/2008/EC



Increasing regulation

(3)

VOC Directives (Paint VOC Directive^{*)} and Industrial Emissions Directive^{*)}

- The VOC directives define the maximum allowed amount of volatile compounds contained in paints and the maximum volume of VOC emissions in production. The purpose of the directives is to prevent or reduce the direct or indirect impact of volatile organic compound (VOC) emissions on the environment or people.

Biocide Product Regulation^{*)}

- The biocide regulation governs the use of preservatives in paints. The directive replaced the Biocidal product directive on September 1, 2013, the former been in force since 1999.

^{*)} The Paints Directive 2004/42/EC
Industrial Emissions directive 2010/75/EU
Biocidal Product Regulation 2012/528/EU



Russian chemical legislation

- In force: GOST for safety data sheets for chemical products and GOSTs based on GHS (Globally Harmonized System of Classification and Labelling of Chemicals) regarding the classification of chemical mixtures and products (effects to human health / effects to the environment) – only minor differences between European CLP and Russian GHS
- Technical regulation of the Customs Union on the paint and varnish product safety including the work safety (Russian) and indoor air quality (similar to Product VOC in Europe) requirements – timetable delayed due to extension of the Customs union – possibly in 2017-2018

Sustainability in the core of RDI

Sustainability landmarks



Customer cooperation and communication in 1920s



Tinting 1970



First EU Ecolabel in Finland 1997



Over 100 eco-labeled products 2015



Joker 1953



Environmental management certification 1994



Corporate Responsibility Program 2009



ClimateCooler Catalyst listed as one of the top 100 sustainable solutions globally

Responsibility increasingly important

- Changes in legislation
- Customers' expectations and environmental awareness
- Global and business environment trends
- Increased investor interest
- Possibilities for new innovations and solutions



Environmentally sustainable solutions

- Quality
- Long service life and long maintenance painting intervals
- Easy and safe to use
- Water-borne products; over 70% of production
- Eco-labels; hundreds of our products are eco-labeled



Responsibility priorities



User experience

We will increase our focus on supplier and customer cooperation, development of new user-friendly and functional solutions, as well as promotion of recycling and waste management.



Resources

We will further improve our production and resource efficiency and pay increased attention to raw material choices and life cycle thinking in product development and the solutions we offer.



People

We will make sure that our operations are responsible and have a focus on personnel well-being and open interaction, as well as on occupational health and safety in all our operating countries.

Responsibility throughout the value chain

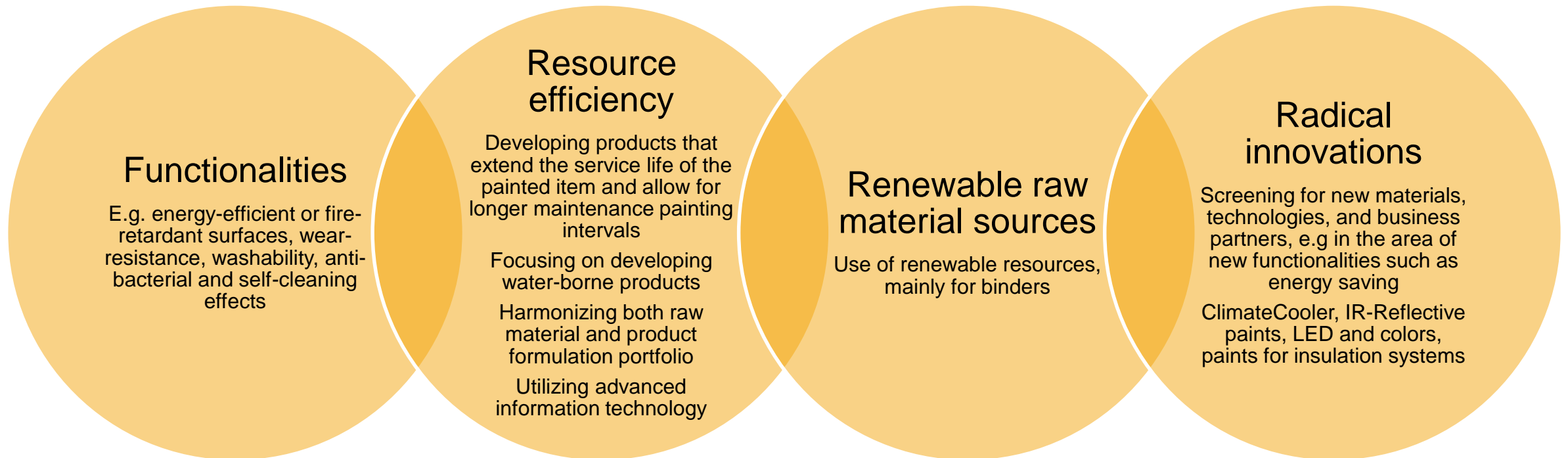


Environmental impact of paint



- The main environmental impacts of paint during its life cycle result from
- production of raw materials and packaging materials,
 - energy used during the manufacturing of the product,
 - emissions and wastes generated during production,
 - distribution of raw materials, packaging materials and products
 - compounds evaporating from the paint during painting and drying, and
 - disposal of paint waste.

Sustainability is in the core of the RDI work





TIKKURILA

Q&A