



Swedish Innovation Platform for Textile Sorting SIPTex

Telaketju Textile Webinar 13th May 2020
Ambjörn Lätt

SIPTex

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VINNOVA
Sweden's Innovation Agency



IVL Swedish Environmental Research Institute

Sweden's leading organisation for applied environmental and sustainability research

SIPTex


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Our vision
**A sustainable
society**

We drive the transition by transforming

- Science into reality
- Environmental problems into opportunities
- Linear processes into a circular economy

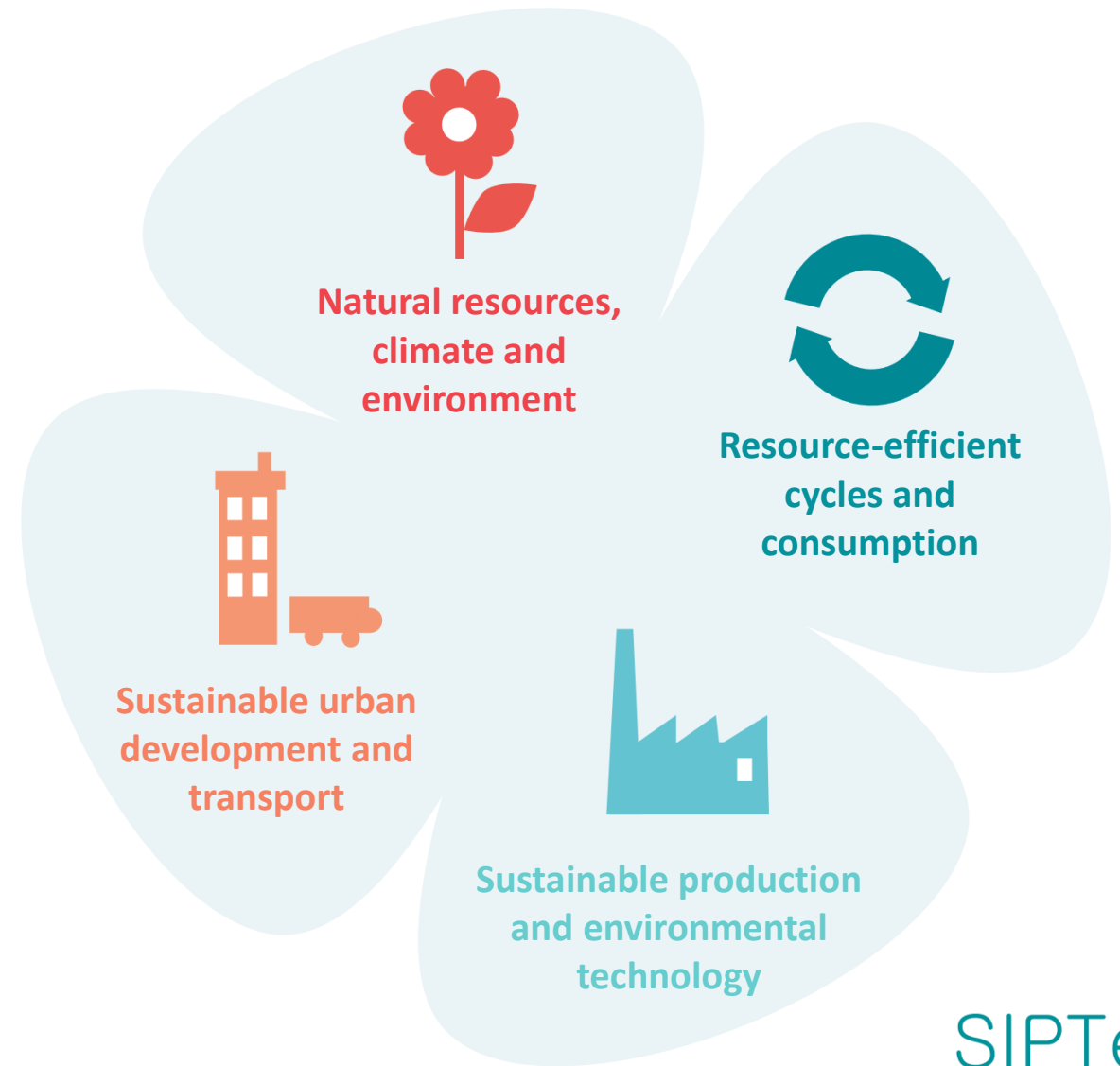
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Sweden's most extensive environmental profile

Our broad field of skills interact across four thematic areas.

- Stockholm, Gothenburg, Malmö, Fiskebäckskil (Sweden), Beijing (China) and Mumbai (India)
- 330 employees create environmental benefits and value for our customers



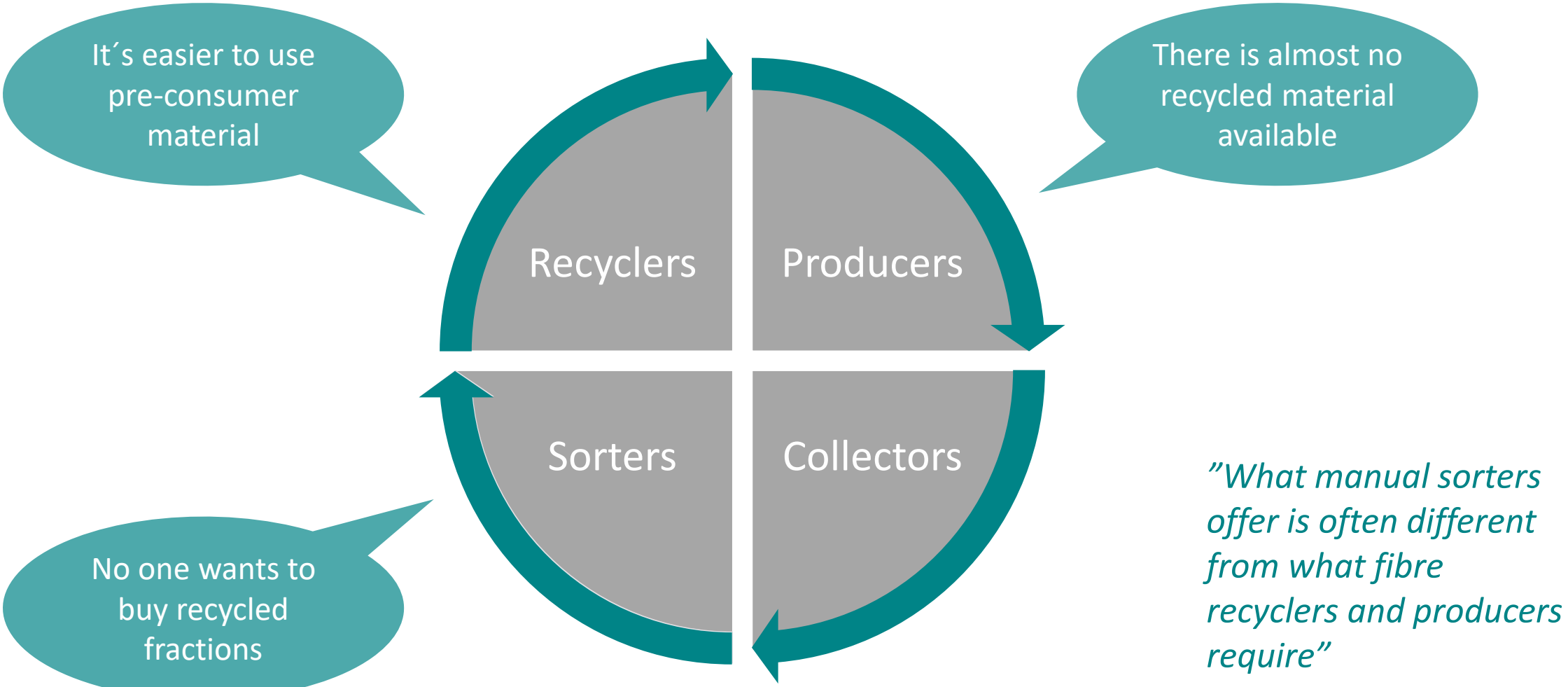
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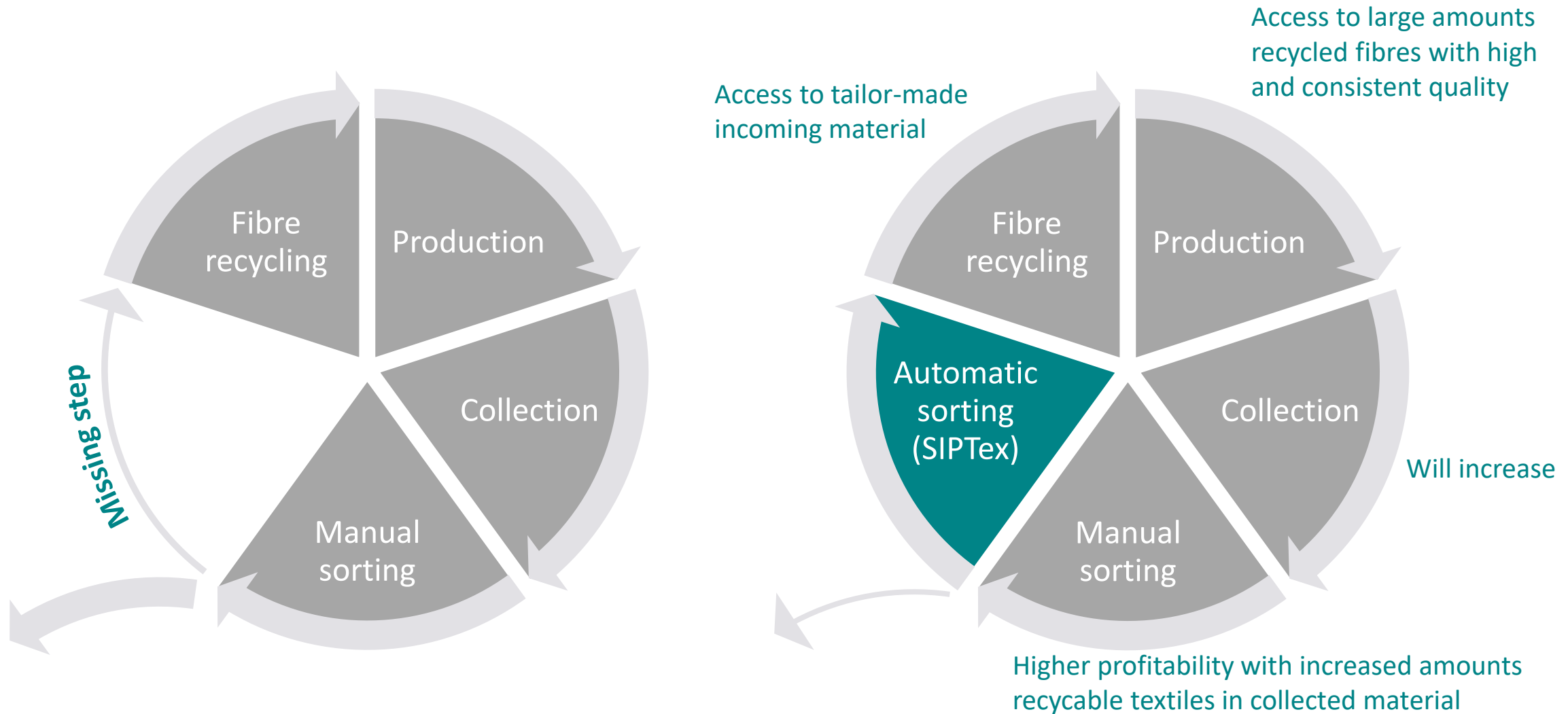
The aim of SIPTex

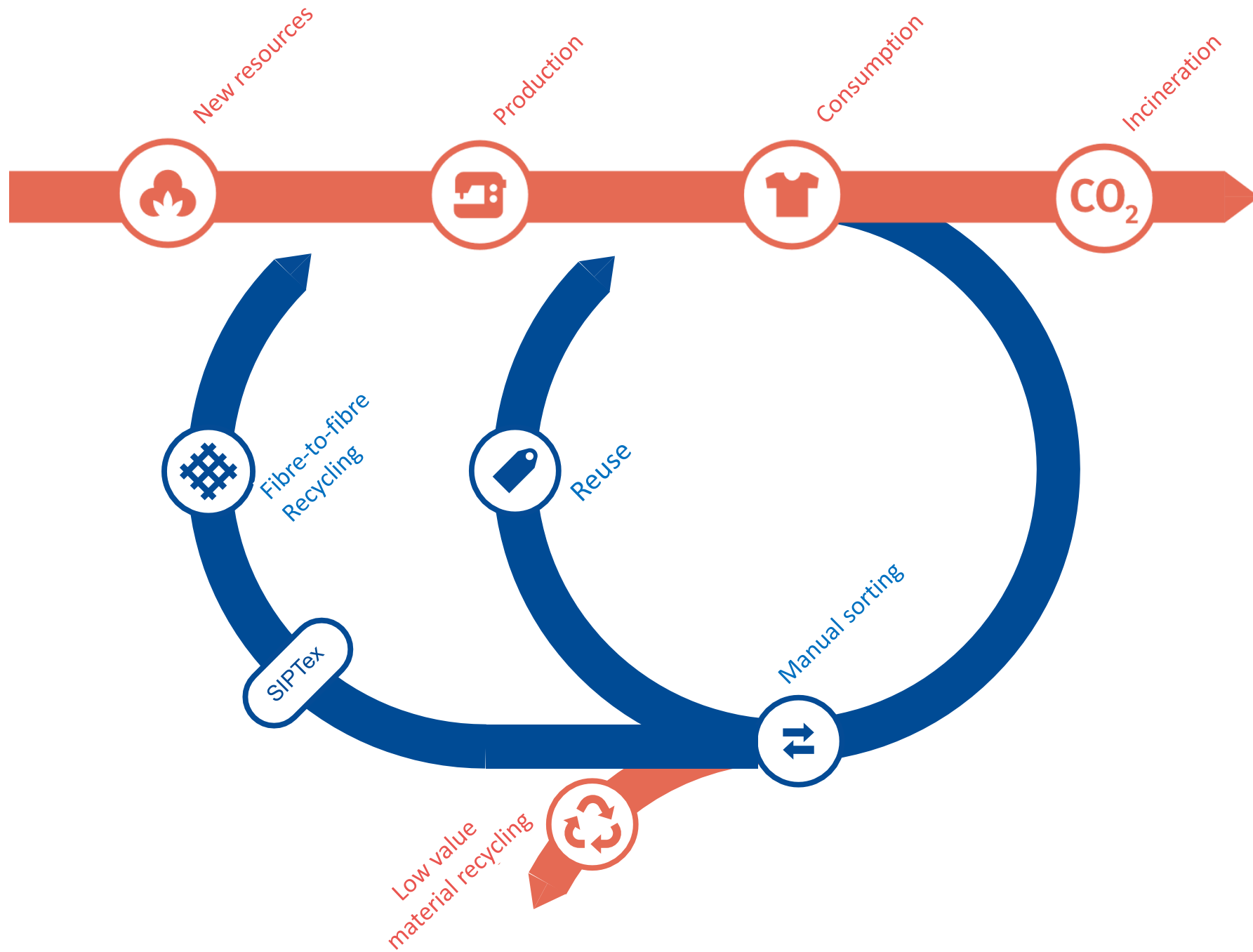
"The aim of SIPTex is to establish a fully automated industrial scale textile sorting facility in Malmö (south of Sweden) and to produce quality assured recycling products for fibre-to-fibre recycling that meet the requirements on the market"

Today's market for recycled textile fibers



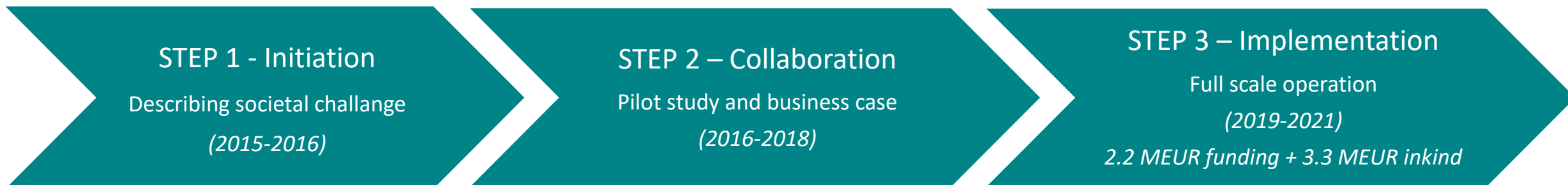
SIPTex is introducing a new step in the value chain





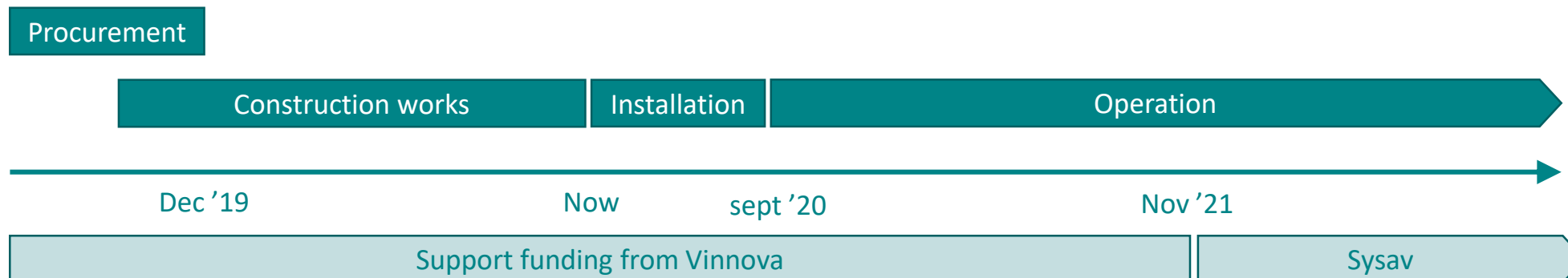
Project data SIPTex

Funding from Sweden's Innovation Agency, and their funding program *Challenge Driven Innovations*



Project coordinator - IVL Swedish Environmental Research Institute

Timeline SIPTex 3



Technical data

- Capacity

- 8 000 tons/ year with one shift, 24 000 tons / year with 3 shifts
- 4.5 tons per hour sorting capacity

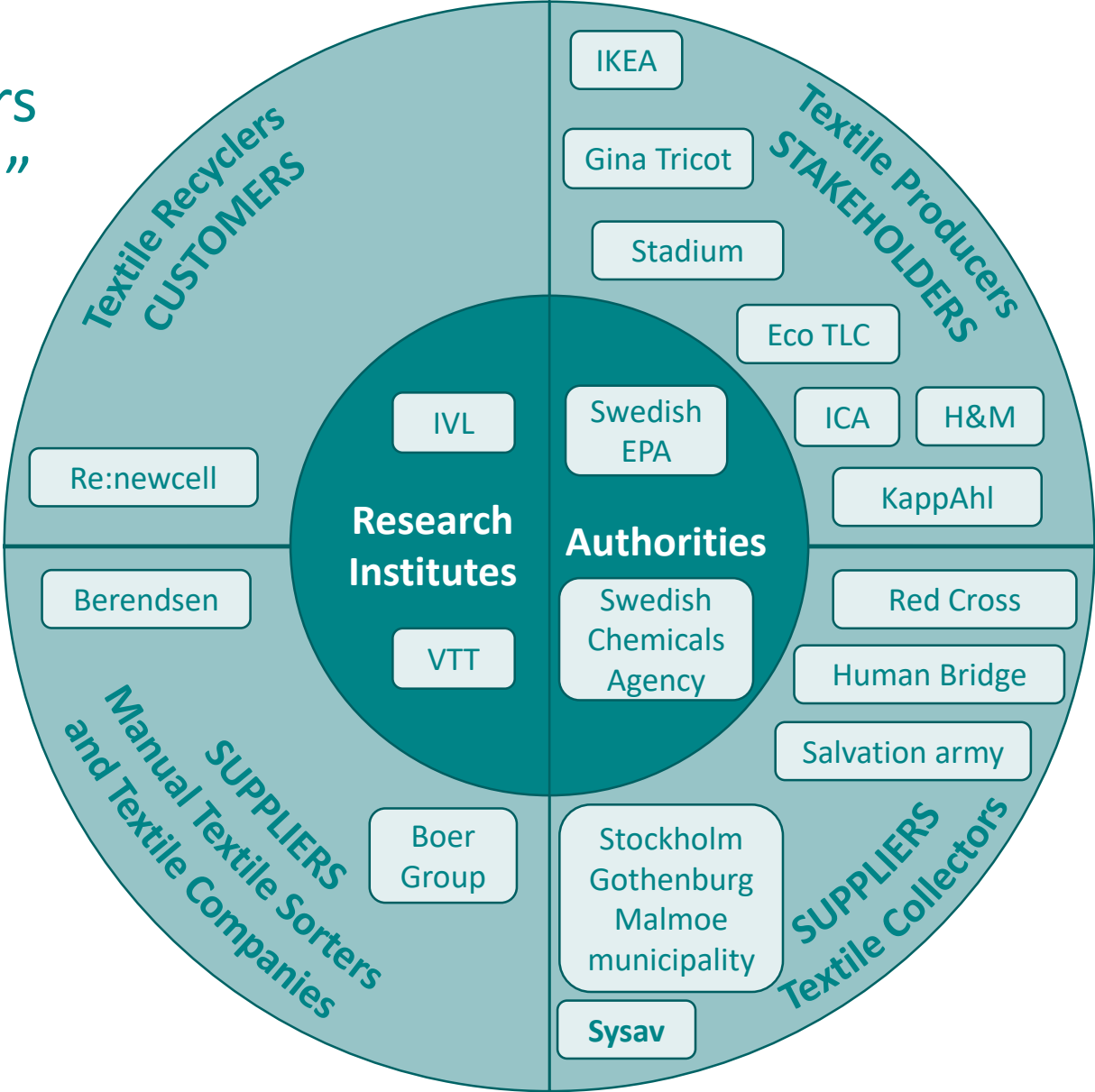
- Scanning technic

- NIR, (near-infrared radiation) for fibre-sorting
- VIS, (visible spectroscopy) for color-sorting
- Developed for high-quality and high-speed sorting

- Process

- For each textile batch the four scanner programs are matched with the composition of incoming material to optimize the sorting for fibre-to fibre.
- For each incoming batch we sort up to 3 fractions by fibre and/ or color.
- 4 scanning units (NIR/VIS) installed, 3 for recycling products and 1 cleaning stage for extra quality assurance

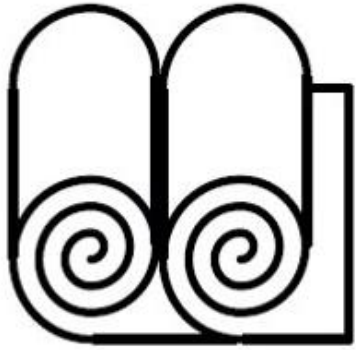
”SIPTex has a strong consortium with 21 partners from the whole value chain”



Work packages and activities



Today we handle three categories of inbound material



TEXTILE FROM INDUSTRY

Mixed textile material from industries. The material may be of different fiber types; cotton, wool, polyester etc.
Size: max 2x2 meters.



PRE-SORTED TEXTILE

Sorted textile materials from manual sorting of specific product type, such as broken sheets or t-shirts. The material may be of different fiber types; cotton, wool, polyester etc.
Size: max 2x2 meters.



SORTING RESIDUES TEXTILE

Sorted textile materials from consumer and industry, for example garments from charities that cannot be reused. The material may be of different fiber types; cotton, wool, polyester etc.
Size: max 2x2 meters.

Today we focus on material that does not contain

- Multi layer materials, such as a jacket with a lining. The textiles are scanned on one side and therefore a lining can contaminate the final product.
- Balls of yarn and longer objects that are rolled up
- Upholstered materials, such as pillows and down comforters
- Elastic sheets, since they tend to tangle
- Carpets and curtains
- Textile that are soiled by paint och oil
- Flame retardent treated material
- All material must be clean and dry

SIPTex Sorting programs

- Today we focus on the following fibres
 - Cotton
 - Wool
 - Polyester
 - Acrylic
 - Polyamid
 - Viscose
- Quality
 - Sorting for high quality by fibre and color is what SIPTex does
- Flexibility
 - The sorting programs can and will be adapted to the market demand and specific customer requirements both for fibre content and color



Picture from SIPTex 2



Picture from SIPTex 2



100-wool

Sorteringsfraktioner



Fallen lassen

96%

Ausschleusen

4%

Home

Sortierung

Statistik

Wartung

Zum Einloggen hier berühren

Ström Redo



Anläggning Redo



SORTER ON/OFF



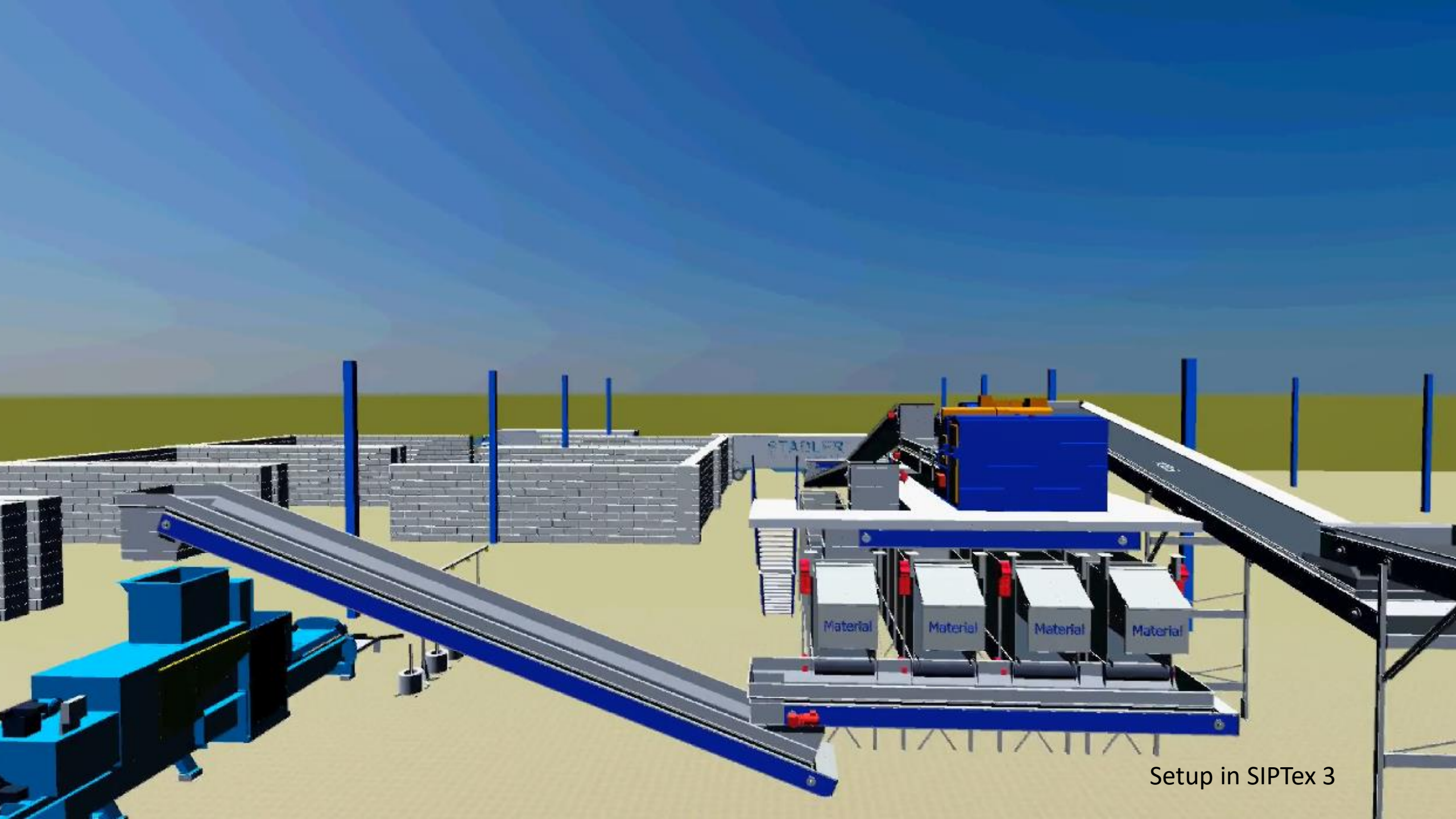
Kontroll



Picture from SIPTex 2



Picture from SIPTex 2



Setup in SIPTex 3

Thank you for listening!

Let me know if you have any questions or are interested in cooperation

ambjorn.latt@ivl.se

Watch the SIPTex [video](#) on Youtube!