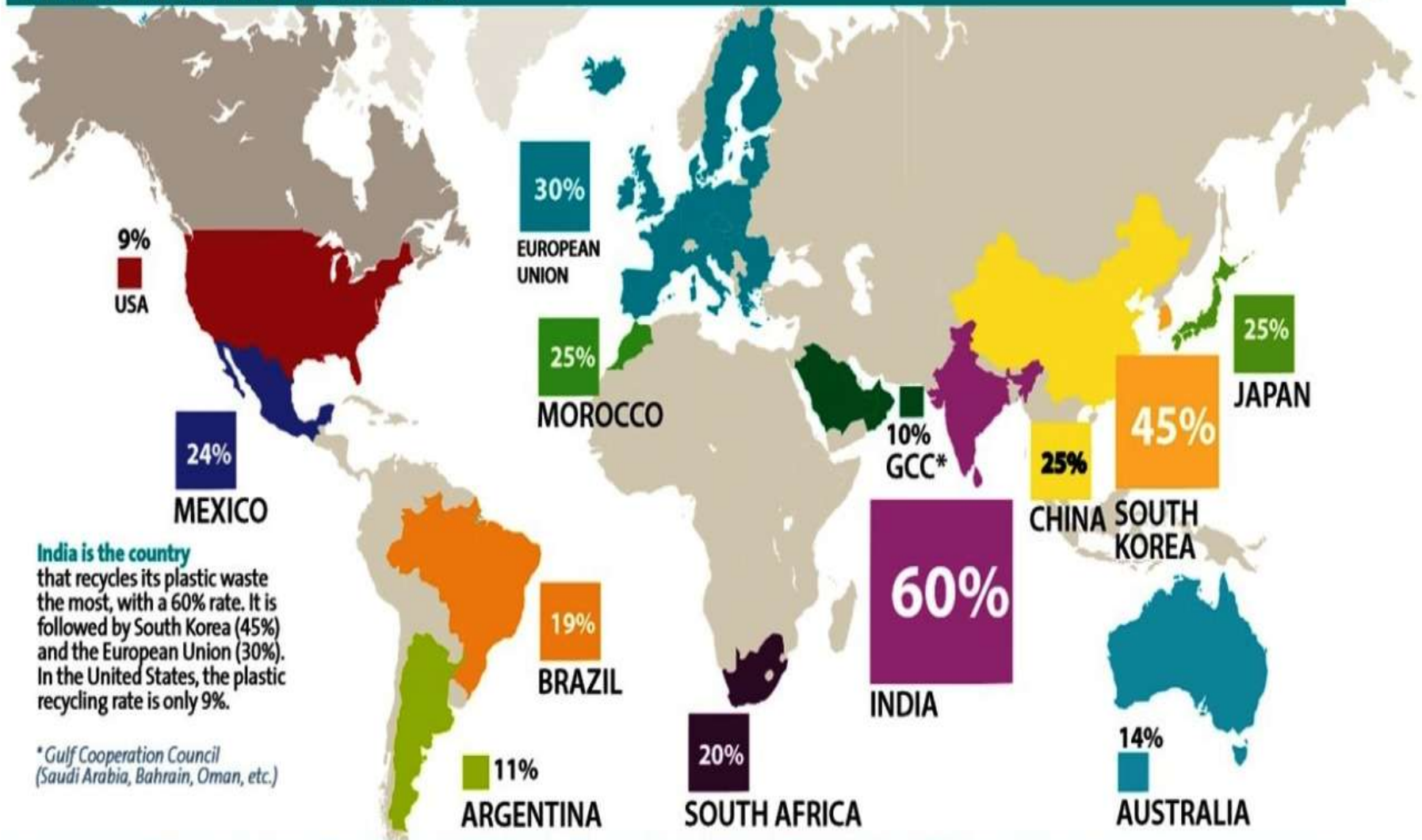


Plastic Recycling Conference ASIA

Mahendra N. Patel – Chairman – PMMAI



PLASTIC RECYCLING WORLDWIDE



Source: https://www.veolia.co.uk/sites/g/files/dvc1681/files/document/2018/10/Veolia%20UK%20_%20Planet%20Magazine%202016.pdf

Awareness – Alarming Grim Reality.



From PM of India to new born child awareness of Grim situation got communicated.



It is not Waste Plastics, it is Used Plastics

Activities triggered across the country 2014-2019

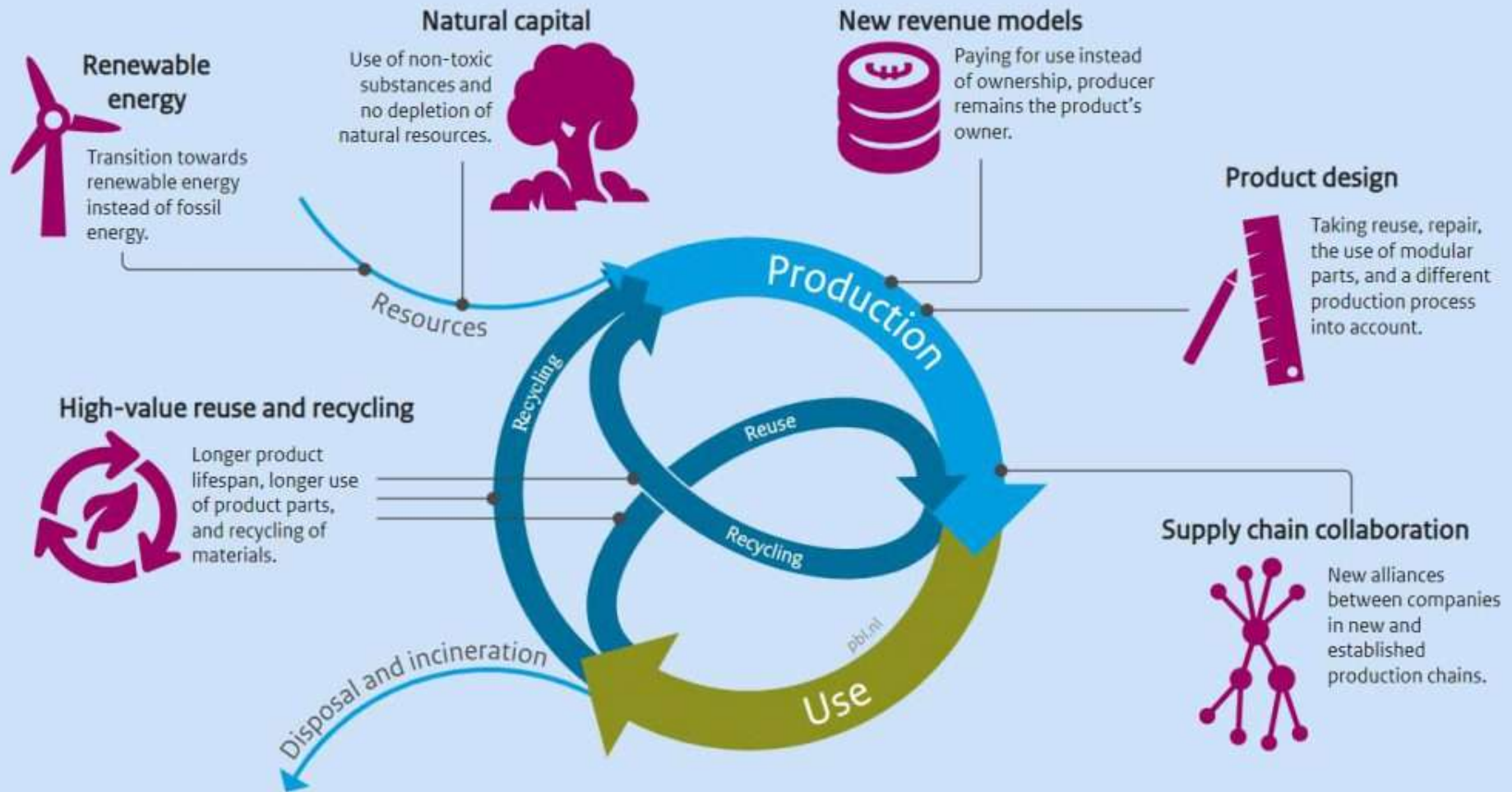


"Recycling is a big industry in India. India recycles 78% of plastic, which is highest in the World. Hence, used Plastic is not a waste, it is a source of earning for the marginalized segment of the society. As citizens, we must take responsibility of not putting the plastic in waste – rather segregate them, clean them, and send them for recycling. If every citizen disposes clean plastic then there will be no plastic in the landfill. Let's be Responsible for a cleaner environment."

-Ramesh Chauhan



Elements of a circular economy

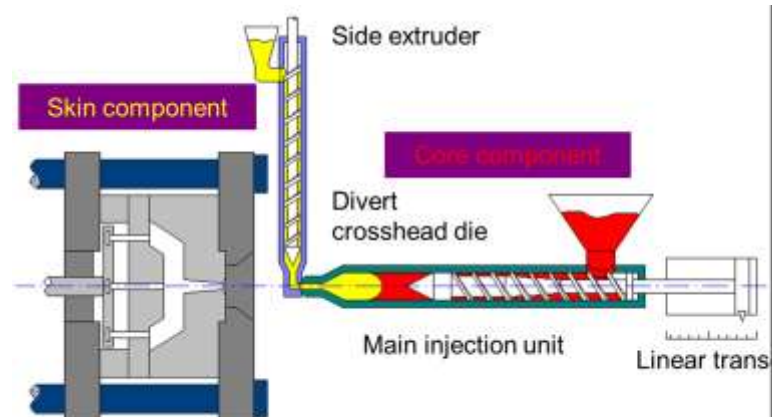


New Technologies for use of Recycled Material

- Low Pressure Injection Molding (LPIM)



- Mono Sandwich Process



LP - Series Machines from Milacron

Big Parts, Big Machines, We Deliver BIG Ideas

The leader in low pressure molding technologies for over 4 decades offering advanced technologies for Structural Foam, Structural Web Gas-Assist, and Integrated In-Mold Gas-Assist molding.

With a machine range from 500 to 2500 tons, low pressure molders are making large parts in the Material Handling (Pallets & Boxes), Commercial Products (Utility Carts & Storage), Infrastructure (Drainage & Irrigation), and Recreational Vehicle Industries.

- Shot sizes up to 400 lbs
- Extruder outputs up to 5500 lbs/hr
- Platen sizes up to 110" x 200"

Structural Web Waste Containers



132 liter (35 gallon)



170 liter (45 gallon)

Introduction to LPIM



What is LPIM Molding?

Ultra Large Shot-Size Parts that require:

- Thick wall sections
- Large Shot Size (>70-80lbs) & Large Projected Area (Platen Size)
 - Multi-Cavity/Multi-Mold
 - Family Molding of Parts
 - Single Large Projected Area Parts



Low Pressure - Multi-Process Capability

Structural Foam

Cellular Core & Skin



Structural Web & Gas Assist

Smooth Surface – hollow sections



Multi Color and Materials

Dual Extruder Machine

**Combinations of Above
Technologies**



Applications Examples

Structural Web Waste Container Examples

132 liter (35 gallon)



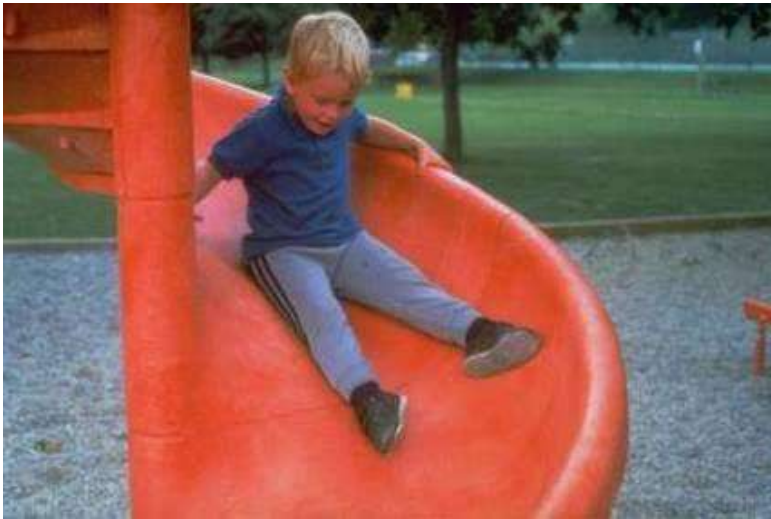
170 liter (45 gallon)



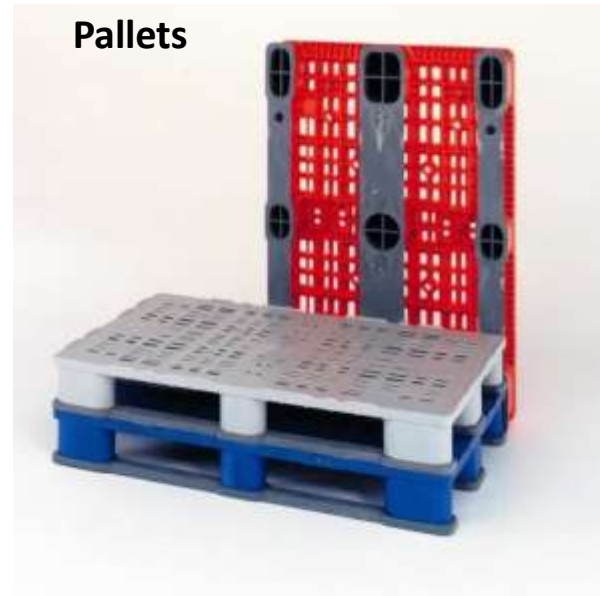
Folding Container Side Walls



Children Playslide



Pallets



Application: Insulated Food Carriers

Process: Structural Web PP
Machine: SF1000SWP-2x630
Number parts: 8
Thin wall: 3 mm
Emma bonded shells
Low density foam filled



Application: Commercial Products

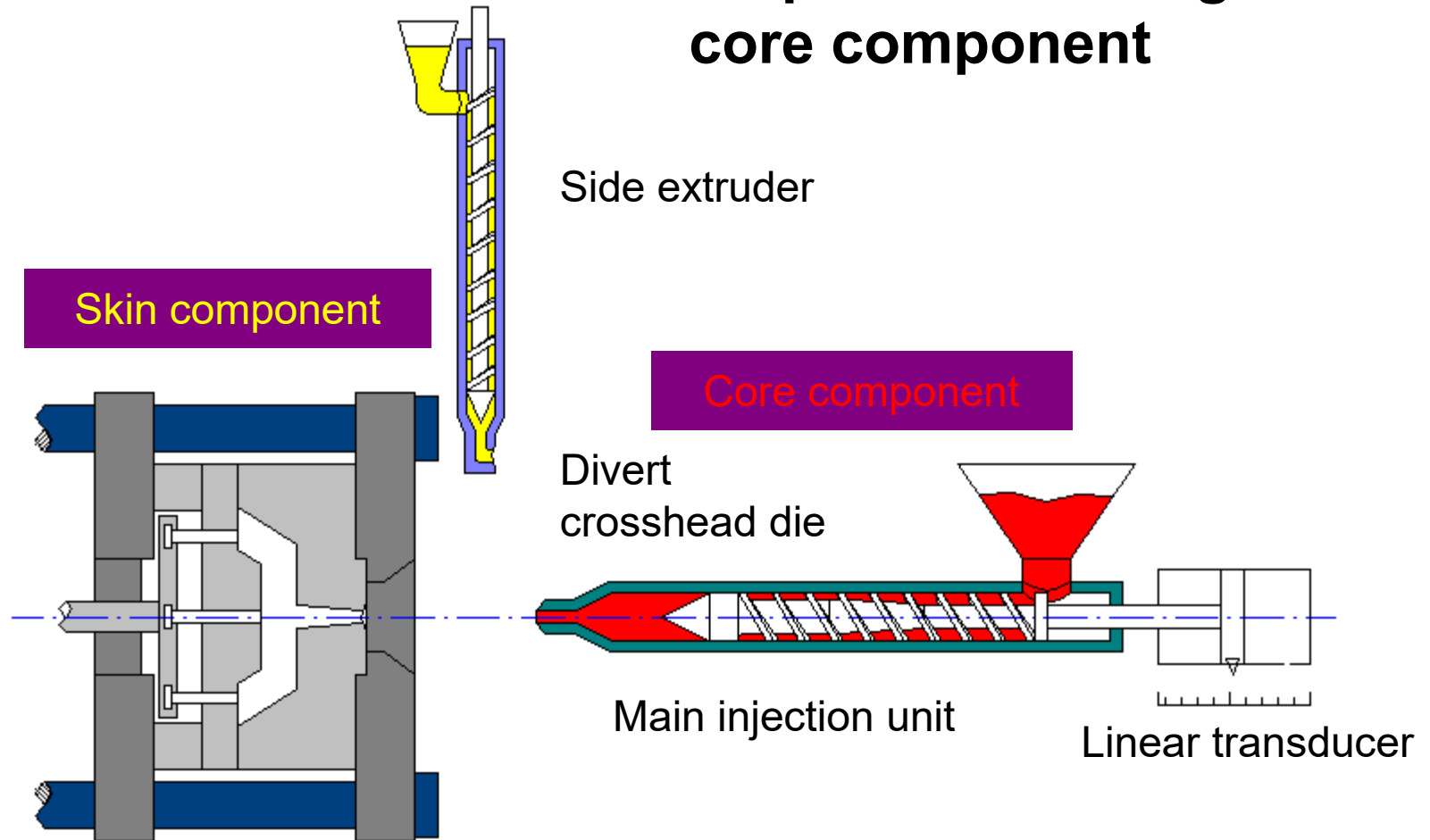


Monosandwich Process



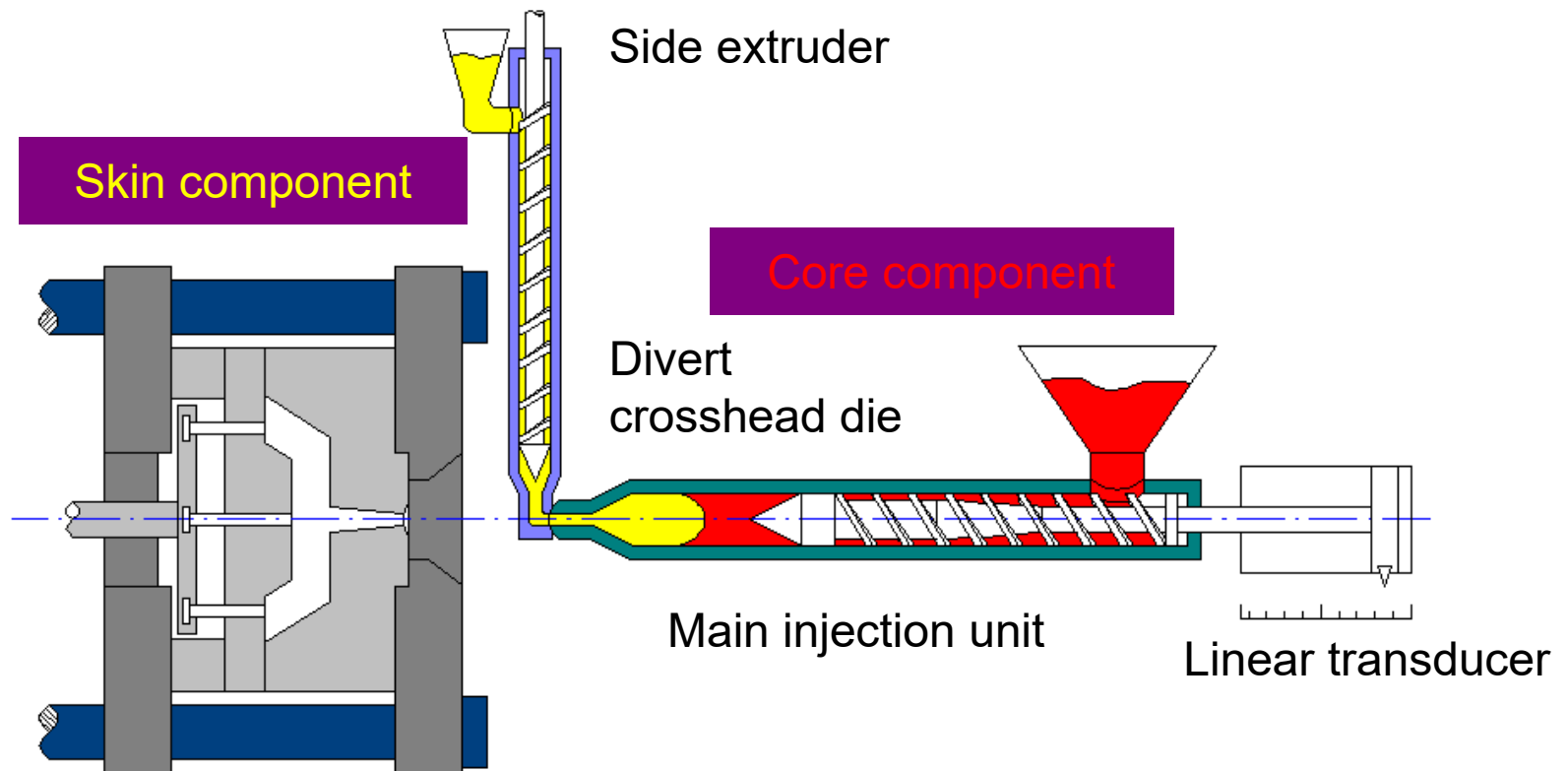
The Monosandwich Process

Step 1: Plasticizing core component



The Monosandwich Process

Step 2: Plasticizing skin component



Technical Execution

Extruder vertical arrangement



Monosandwich Advantages

Material cost savings

- **Use of recycled core material**
- Reduce amount of pricy skin material

Reduced weight

Improvement of strength

Improvement of surface quality

Functional improvement

Acoustic improvement

Simple process

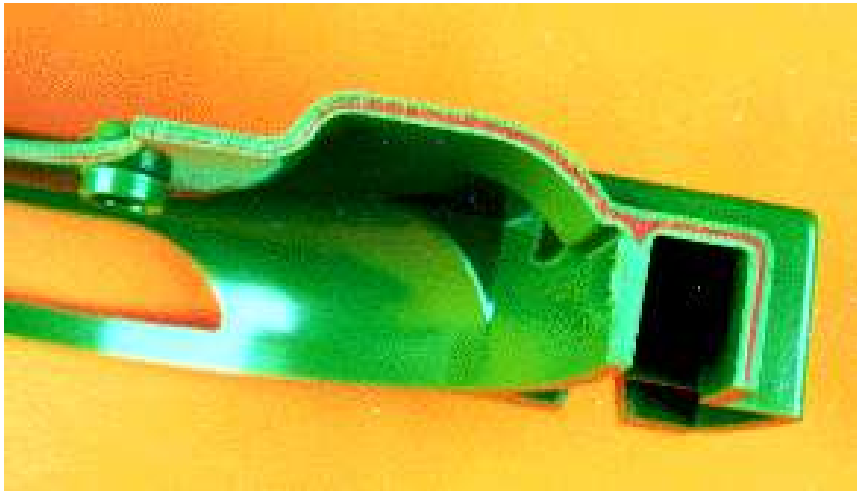
Use of existing cold runner molds

Fast material change

License free system

Cost effective solution

Monosandwich Applications



Hospital Wheel



Toy Boat



Dog Basket

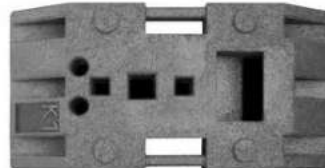
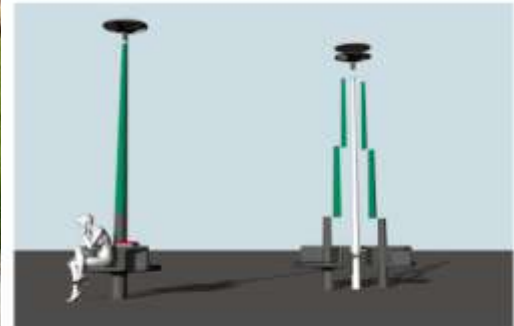
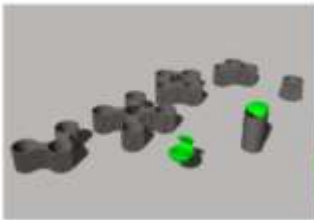
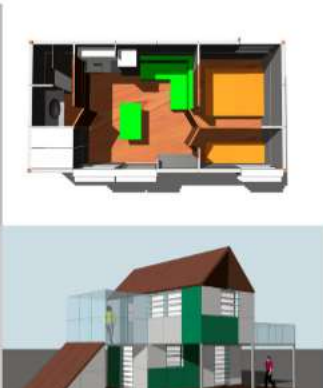
Other Recycling Applications

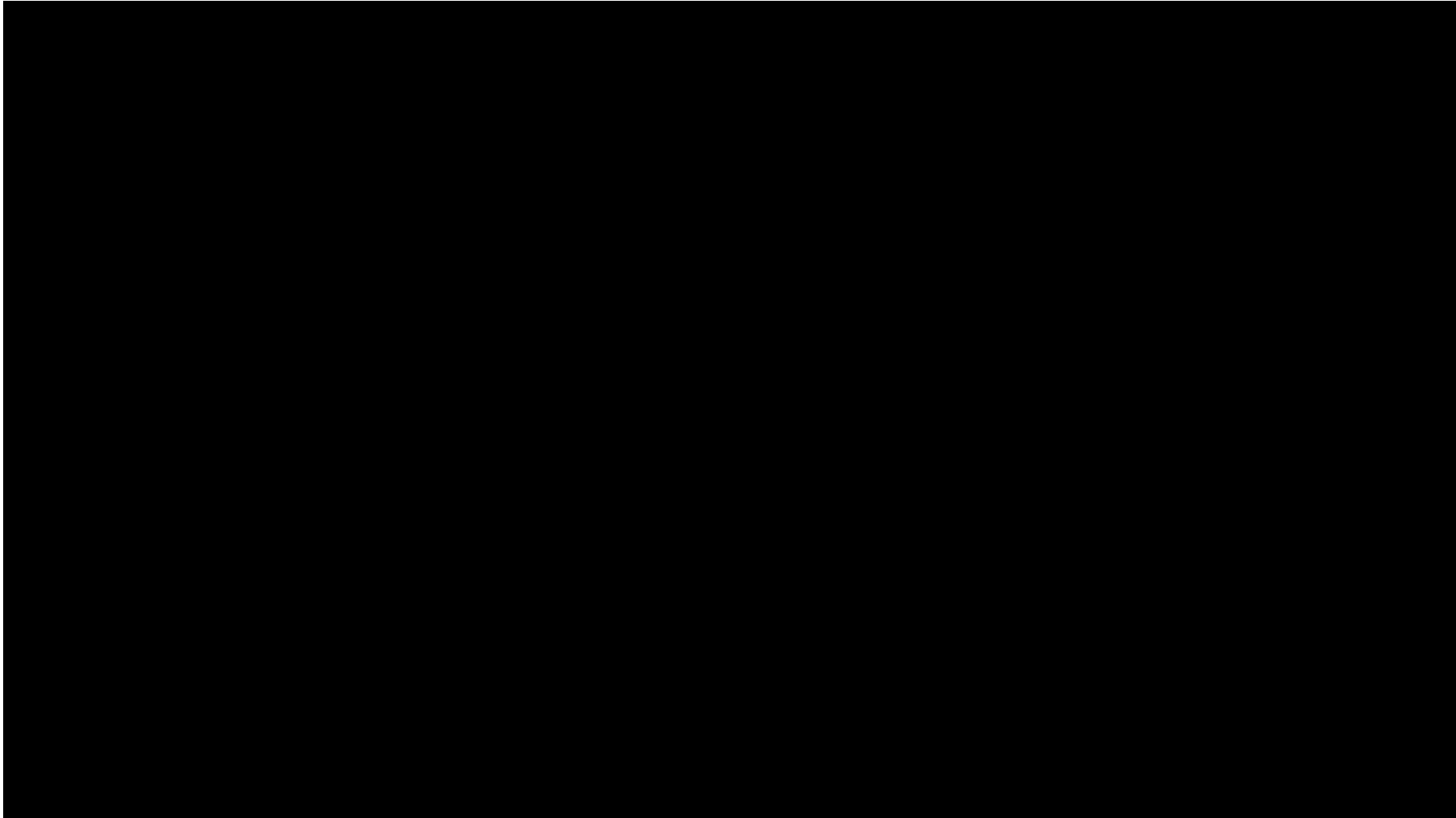
- Crates



- Furniture







BY NATURE



BY HUMANS



THANK YOU

