



# AUTOMOTIVE INDUSTRY SOLUTIONS

PrH

PRODUCT  
HANDLING

COMPONENTS | MACHINED PARTS | POWDERED METALS  
CERAMIC SUBSTRATES | COOLING SYSTEMS | SPECIALTY COATINGS

# AUTOMOTIVE SOLUTIONS MADE POSSIBLE

As a leader in the product handling industry, Shuttleworth offers product handling solutions to keep the automotive industry moving. We've developed hundreds of applications for light to medium weight automotive assembly and components such as catalytic converters, engine control modules, oil filters, powdered metals and more. Our custom solutions are designed specifically to the product, application and its environment. We partner in collaboration with our customers to develop the best proven product handling solutions to meet their specific industry challenges and needs – delivering value through integrated automation.



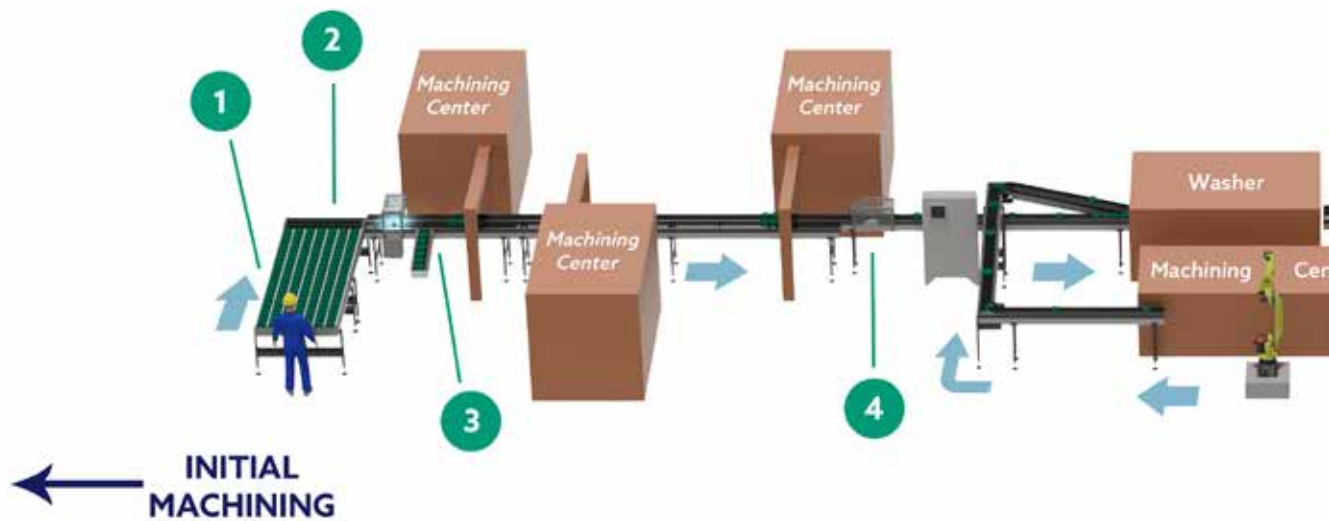
## **INNOVATIVE. EXPERIENCED. EFFICIENT.**

Shuttleworth has led the product handling industry with custom product application designs since 1962. Our innovative Slip-Torque® roller technology is the foundation of our conveyor systems, providing low back pressure accumulation for gentle product handling of the most delicate and fragile automotive components and powdered metal parts products. Shuttleworth's line of conveyors and specialty devices go through rigorous testing and offer durability and reliability for peak performance and increased line efficiency.



# AUTOMOTIVE HANDLING SOLUTIONS

Shuttleworth's conveyor systems designed for the automotive industry are developed through a variety of innovative, unique solutions to help streamline the machining process and improve line efficiencies. Our extensive experience in designing automotive applications utilizing our revolutionary Slip-Torque® technology combined with a variety of specialty devices, offers product handling with precision control to gently handle the most fragile parts.



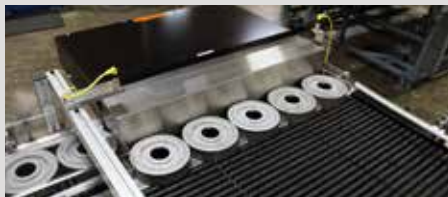
## 1. MULTI-LANE ACCUMULATION

Accepts build-up of product flow from upstream equipment, allowing production to continue if downstream packaging machines fail.



## 2. LIFT AND TRANSFER

Lifts the product above conveyor surface and transports it 90-degrees in either direction to a predetermined point.



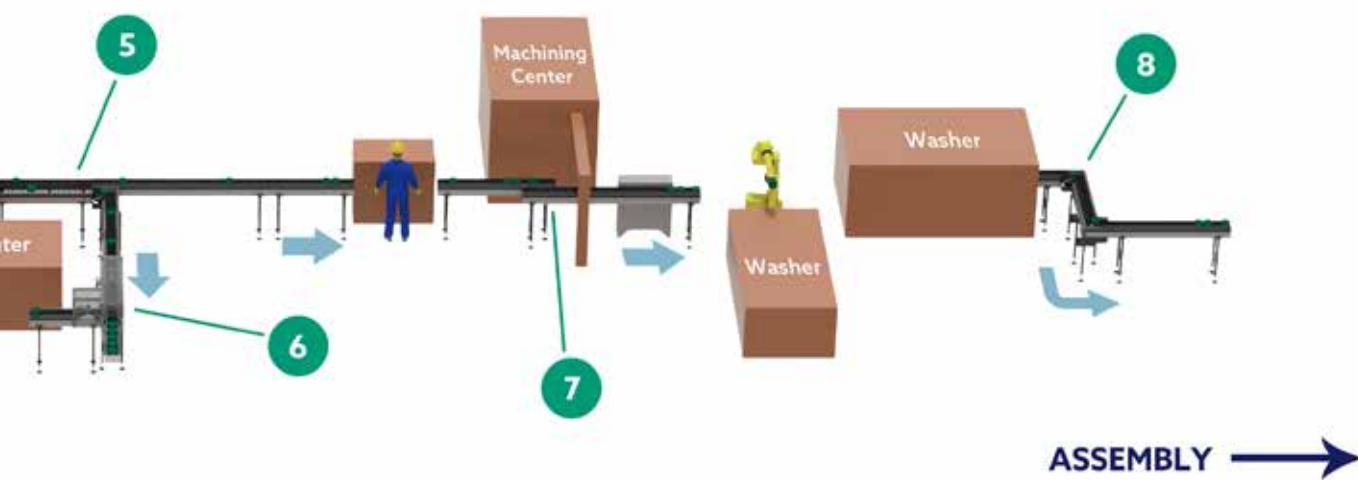
## 3. PUSHER

Typically used to transfer products from one conveyor to another or from one lane to another, pusher devices can also be used for indexing, braking, lifting, orienting, combining and pattern forming.



## 4. FLIPPER

Designed to flip product 180-degrees to convey product to next stage in manufacturing process.



#### 5. TRAFFIC CONTROL

Using pin stops, blade stops, or brakes, release products at pre-determined intervals based on upstream and/or downstream traffic conditions and prevent jamming or overloading products during a production process.



#### 6. ORIENTING

Ensures gentle product handling for organized conveying including product turning, rotating, inverting or positioning.



#### 7. PRODUCT PRESENTING

Allow existing or new equipment to interface seamlessly with our product presentation to robotic or machine gantry devices.



#### 8. TIGHT RADIUS TURNS

This floor space savings device allows both single and multi-lane conveying while providing stability and safe handling to ensure your products remain safe and intact throughout a turn cycle.

# THE SHUTTLEWORTH ADVANTAGE

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## ACCURACY / GENTLE HANDLING

Positioning parts through the use of automated product handling devices provides consistent product control. Utilizing Slip-Torque® technology, our design engineers will create the best solution to accurately handle your fragile or “green” parts before or after the sintering process in powered metal applications. We will design a system so your machined parts can be accumulated without damage to the parts or the rollers on the conveyor.

## ACCUMULATION

When conveying multiple products in multiple lanes, our low line pressure accumulators are an excellent choice. After learning about your project needs, we will design a system for mass or inline accumulation for either manual or robotic handling operations using low line pressure, which minimizes product damage.

## OPTIMIZED RESOURCES

Controlling the amount of time needed at each furnace or press is critical. Through the use of automated parts handling, we can design solutions that optimize labor and increase the efficiency of your facility.

## FLEXIBILITY

Having the ability to accommodate product changes is extremely valuable in this ever changing market. Whatever size or shape of your product, your Shuttleworth system will be flexible to help you minimize changeover time.

## FULL SERVICE

When you want to integrate specific equipment, such as scales, marking systems, or robotic interfaces, our engineering team can help you simplify the process. Our dedication, experience, ongoing communication, and project management process enable us to function as an extension of your engineering department.

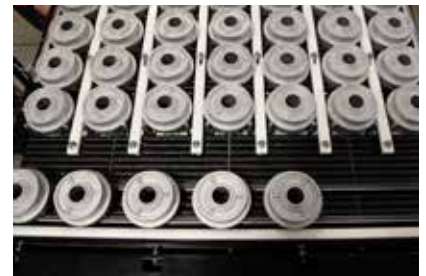
We develop innovations that will maximize production and help improve how your products are packaged for distribution across the globe. We're more than simply a conveyor manufacturer - we're Shuttleworth.



LOW LINE PRESSURE ACCUMULATION



CUSTOMIZED SURFACE



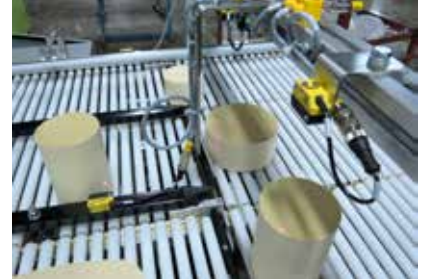
MACHINED PARTS



POWDERED METALS

## **AUTOMOTIVE COMPONENTS APPLICATIONS EXPERTISE**

Our applications expertise goes beyond traditional conveyor manufacturers. Our team of knowledgeable applications engineers and industry experts is committed to helping customers discover the ideal solution for their specific product application needs. Our automotive applications experience includes accumulating, combining, dividing, indexing, pattern forming, pushing, rejecting, rotating, single rowing, vision inspection and much more. In addition, ergonomic operator requirements can be taken into consideration and incorporated into the overall design. From accumulating and pattern forming to multi-lane accumulation, Shuttleworth has a solution for you.



CERAMIC SUBSTRATES

## **Our automotive expertise includes a broad portfolio of product applications:**

### **CATALYTIC CONVERTERS**

- Coating Infeeds
- Inspection & Pack-off

### **CLEAN CONVEYORS FOR ASSEMBLY**

- Air Bag Sensors
- Air Conditioning Components
- Anti-lock Braking Systems
- Rear View Mirrors

### **COMPONENT ASSEMBLY**

- Air Bags
- Air Bags X-ray Inspection
- Air Conditioner Compressors
- Air Conditioner Evaporators
- Automatic Transmissions
- Fuel Injectors
- Headlights
- Radiators
- Rearview Mirrors
- Sensors

### **COOLING SYSTEMS**

- High-Temperature Parts

### **ELECTRONICS**

- Body Control Modules
- Circuit Boards
- Power Train Control Modules
- Radios
- Thermostat Controls

### **PACKAGING & ASSEMBLY**

- Air Filters
- Oil Filters

### **PARTS QUEUEING FOR ASSEMBLY**

- Alternators
- Cylinder Heads

### **POWDERED METAL PRODUCTS**

- Automated Transfers To/From Furnace
- Clutch Components
- Transmission & Engine Pump Gears

### **SPECIALTY COATINGS**

- Plastic Parts



From automotive and electronics, to paper conversion and pharmaceuticals, to food and consumer good markets and beyond, manufacturers across the globe rely on Shuttleworth's proven product handling solutions to increase line efficiency, maximize profitability, and minimize risk. As part of the ProMach Product Handling business line, Shuttleworth helps our packaging customers protect and grow the reputation and trust of their consumers. ProMach is performance, and the proof is in every package.

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