



**Industry Notification - Robot Industry**

# **Delta Tire Cord Cutting and Splicing System Solution**

IABG Global Solution Center  
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# Tire Cord Cutting and Splicing System Solution

## Introduction

The tire cord cutting and splicing equipment is designed to cut and splice rubber tires. This solution from Delta is mainly for cutting, positioning and splicing. It employs DRS80LC robot and the positioning system with dual vision for rubber grabbing and placing, as well as accurate splicing. The 2 top vision cameras capture feature points of rubber at the grabbing station and placing station separately, calculate the actual position of the points, compare them with the standard position to get the displacement, and finally calculate the target grabbing and placing position.

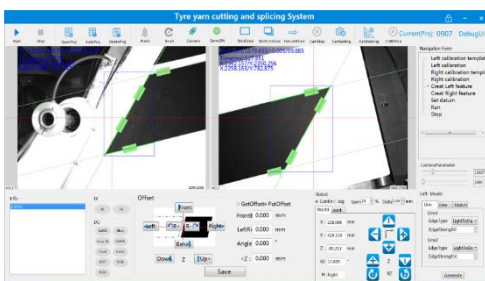
## Application

Tire cord cutting and splicing, Labeling, Plug-ins and other applications

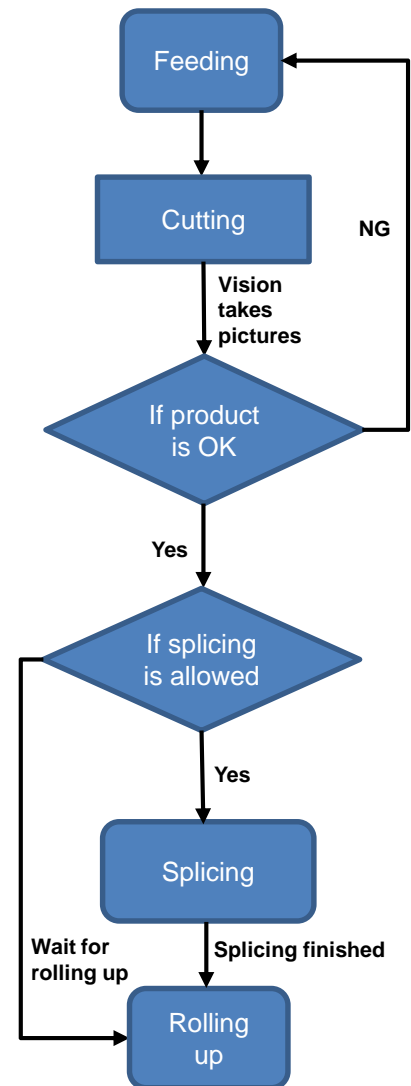
## Process

- Feeding: Unfold a roll of wide rubber sheet and feed it to the conveyor belt
- Cutting: Cut the wide rubber sheet into narrow ones with fixed width and angle
- Positioning: The vision system locates the narrow rubber sheets and sends their position to the robot
- Splicing: Based on the position, the robot overlaps one end of the narrow sheet with the other end into a long one
- Rolling up: Roll up the long sheet

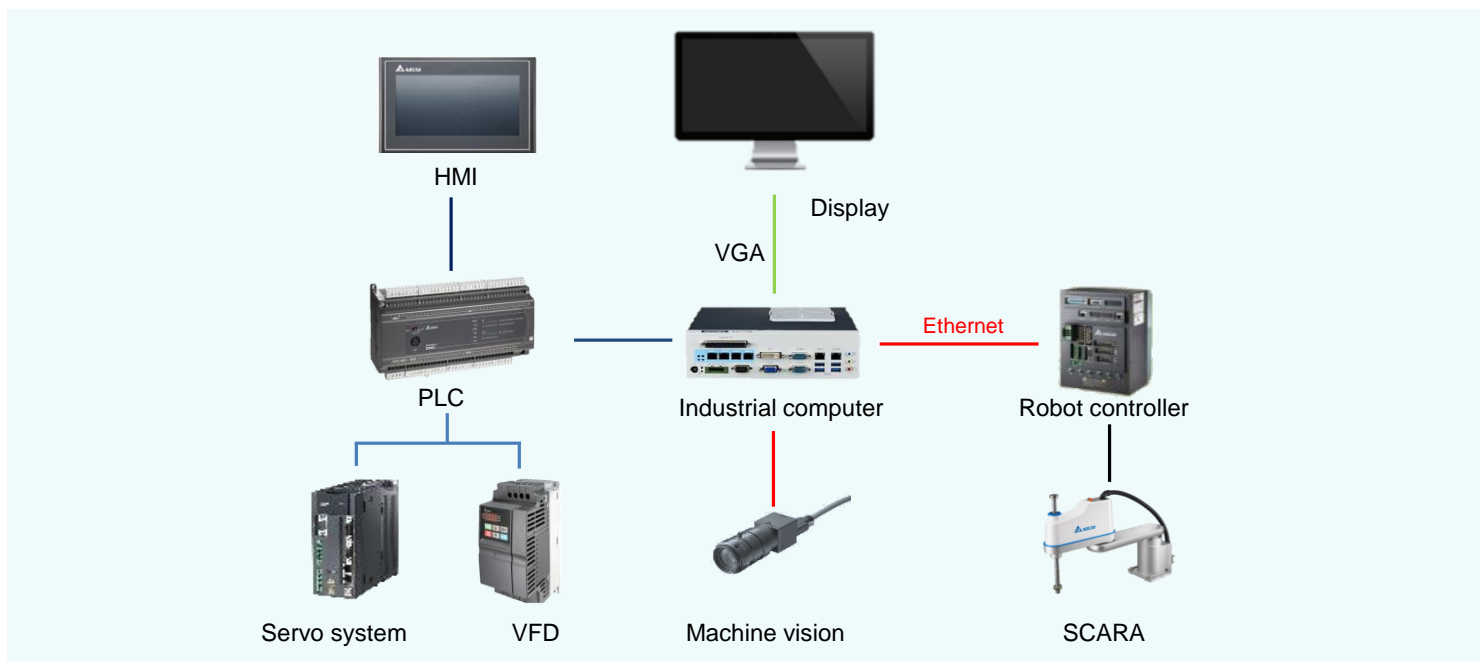
## Software Interface



## Splicing Process



## Solution Architecture



## Features and Advantages

### All-In-One Solution

- High precision SCARA robot for assured product quality.
- The whole system adopts Delta automation products for easy integration and maintenance.
- Intelligent process configuration makes it ideal for different processes.

### Higher Productivity

- Eliminate traditional manual splicing for lower cost and higher automation.
- Smart production to ensure product quality.

### Integrated Software

- Integrate robot control and vision positioning.
- The software offers automatic one-click calibration for accurate and efficient operation.
- No standard position, simple and intuitive operation, as well as easy commissioning.
- Project management function to meet the requirement of diversified production.
- Linear + matching positioning mode to improve identification accuracy.

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