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# Formal Digital Twin of a LEGO® MINDSTROMS™ Production Plant

Formal Methods for Concurrent and Real-Time Systems

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# Contents

<b>1</b>	<b>Model Description</b>	<b>2</b>
1.1	The Production Plant . . . . .	2
1.2	General Overview . . . . .	2
1.3	Components Description . . . . .	2
<b>2</b>	<b>Scenarios</b>	<b>2</b>
<b>3</b>	<b>Properties</b>	<b>2</b>
<b>4</b>	<b>Conclusions</b>	<b>2</b>

# 1 Model Description

## 1.1 The Production Plant

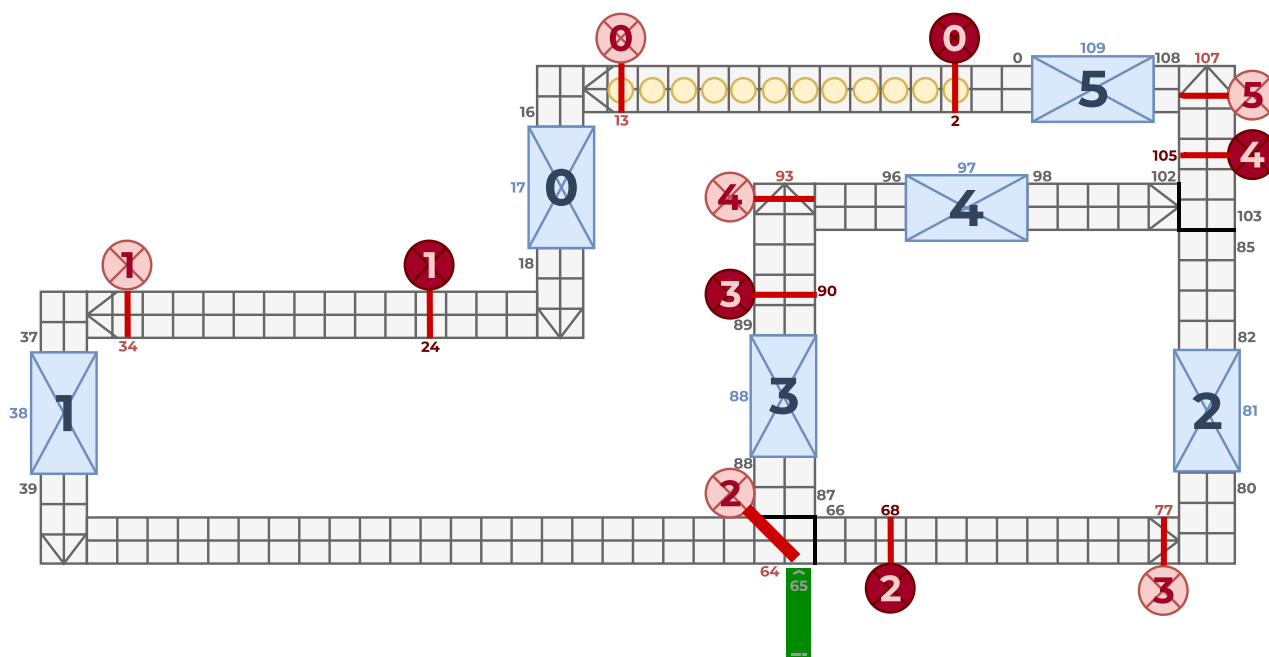


Figure 1: the production plant we modelled.

## 1.2 General Overview

The model of our system is made of 6 different components which interact between them in order to coordinate the entire production plant. Some of them are also instantiated many times in order to a simpler modelling of the entire system.

Initializer

Conveyor belt

Stations

Laser sensors

Flow controller

## 1.3 Components Description

## 2 Scenarios

## 3 Properties

## 4 Conclusions