Design of a reconfigurable intelligent system sandbox

V1.0

**Theme**

A scaled model sandbox of a “CITY” with intelligent systems

**Components**

A manufacturing base

An unmanned transportation system

Supply centers

Robots

**Building blocks**

Makeblock, framework with sensors, controllers, and actuators

Microduino, embedded system with sensors and controllers

Power Tech, robotic modular system

DeFacto, fantastic 3D printed structures

**Objects**

s, LEGO block 2x2 (or similar easy-to-assemble block)

b, LEGO block 2x4 (or similar easy-to-assemble block)

p, product assembled by

**Functional description**

* A manufacturing base
  + Two lines feed two kinds of LEGO blocks (or similar easy-to-assemble blocks), 2x2 “small” and 2x4 “big” (or any other combinations of two distinctive blocks).
  + A robotic arm assembles one block to another, making a “product”
  + Another robotic arm moves the “product” to the third assembly line
  + End of the third line, a third robot moves the “product” to a “truck”
* An unmanned transportation system
  + The “truck” picks up a