



## **ROBOTIC PARKING SYSTEMS**

### **CAPEX, LIFETIME EXPECTANCY, WARRANTY AND OPEX**

#### **As to CAPEX & Life Expectancy:**

The Robotic Parking system supply can be split into four major segments that include the following cost percentage (of total supply cost) with associated life expectancy:

1. Machine Frames, Pallets and Mechanical Parts: 40 % of system supply cost. Average of 40+ years of life expectancy considering scheduled maintenance.
2. All electric and electronic components: This accounts for 40% value of the total scope of system supply by the manufacturer. Minimum 25 years of life expectancy. (This assumes inventory build-up at end of product maturity date as it happens from time to time; typical product life is 25 years)
3. All machine software & operating system software: 10 % of system supply. The life expectancy of software depends if the parking system is connected to the internet or not. In case it is not connected, then the life expectancy is 20 + years (there are automation systems today in operation still running on Win 98). In case the parking system is connected to the internet, it is subject to changes in third party software versions with potentially associated cost of adjustments; The software can be split in to two major parts:
  - RPS Level-1(Machine level) & Level-2 (Garage manager level) software.  
RPS offers full warranty for the above level-1 & level 2 software.
  - Third party software (Windows and SQL by Microsoft, Cimplicity by GE, etc.)  
Since RPS has no control over the major updates done by those software platforms, we cannot include any software updates that may come up over a period of time which could (not necessarily), include upgrading the operating system or databases.  
If the client decides NOT to connect the Garage system to internet (which is not necessary to operate the parking system once installed and tested – except in the case of smartphone apps interface), in this case RPS can warrant that the contractually delivered software has a life expectancy for about a 20-year period.
4. Hardware & Peripherals:  
10 % of system supply scope. The general life expectancy for computer hardware/peripherals is minimum one year per the manufacturers of those components. (Dell, HP, Stratus). This would include the hardware for the Level-1 & Level-2 Server and other control room peripherals. We have garages running with the same hardware with more than 10 years.

RPS depends on its suppliers for the maturity and life of electronic parts which changes over time due to technology upgrades. However, RPS only purchases products from the world's top-notch suppliers and are rest assured that their support is very well available for many years to come. For example, motors and drives come from NIDEC, the world's largest manufacturer of such equipment, or, alternatively from

Bosch; Industrial computers are purchased from GE – General Electric (now Emerson), with which RPS has a relationship since 1996. Our central computing machine comes from Stratus, a manufacturer which is used by the world's largest banks and credit card companies with a reliability of 99.999 %.

The general garage steel structure, façade, foundation & roof structure has a life expectancy of more than 40 years as well.

To achieve the above-mentioned timelines, maintenance and operations with a Robotic agreement in place and according to the use of the system is assumed.

**Amortization:**

The Robotic Parking System as a complete package comprises of i) building elements including electric and MEP installations, ii) machinery with pallets, and iii) electronics and software. Therefore, and considering these different elements with its associated depreciation times, an average yearly amortization rate of between 12 and 15 % can be expected.

**Warranty:**

The general warranty for all mechanical, electrical & electronic components is 1 year from the date of commissioning. However, in case RPS is performing the operations & maintenance, the entire parking system is warranted for the life of this contract.

**As to OPEX:**

RPS prefers to maintain and operate the parking systems installed; with such a long-term agreement we will warrant the system for the life of the agreement. Such agreement assumes operational personnel on site during the opening hours of the garage. The yearly OPEX including electricity and insurance will be around 6 % of CAPEX.

If only maintenance works are required, then the cost for such including parts and electric power to operate the system is estimated at around 3 % of CAPEX.

**Recycling:** The entire system (without foundation) can be removed to another place & fully recycled.