

# **Tobor Inc Automation Process**

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# 1 Introduction

## 1.1 Introduction

Aims

## 1.2 States

There are several states and progression points that are wanted from this automation, starting with what the current situation is and what is expected to happen.

### 1.2.1 Current

|                    |  |
|--------------------|--|
| First Name         | James  |
| Last Name          | Harper   |
| Address            | 12 Indigo Lane   |
|                    | Hull   |
|                    | HL2 0BR  |
|                    | United Kingdom   |
| Telephone          | +44 07464592836  |
| Email              | <a href="mailto:James.r.harper@hotmail.co.uk">James.r.harper@hotmail.co.uk</a> |
| Content Preference | Tech   |
| Interval           | Daily  |

Figure 1: Table used for registration

### 1.2.2 Planned

As was seen in figure 1 Tobor Inc. started out with using a HTML table sent through an email. This has now been adapted for automation use with each box having an index of zero through to twenty, with the properties tables being zero, two, four etc... and the information being one, three, five etc... These tables can now be used as the standard format, as before, but with the robot calling the required index

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### 1.2.3 Benefits

### 1.2.4 Challenges

## 1.3 Example For Code Use

$$\dot{M} = \gamma M \times H_{eff} - \lambda M \times (M \times H_{eff}) \quad (1)$$

| Capping Layer Parameter        | Permalloy (80/20) | Nickel | Iron |
|--------------------------------|-------------------|--------|------|
| Magnetic Saturation (kA/m)     | 800               | 484    | 1730 |
| Exchange Constant (pJ/m)       | 13                | 10.5   | 21   |
| Density (kg/m <sup>3</sup> )   | 8.74              | 8.90   | 7.87 |
| Electrical Conductivity (MS/m) | 14.05             | 0.4    | 10   |
| Anisotropy Constant (MOe)      | 47                | 6      | 10   |

| Cap Metal | Density (kg/m <sup>3</sup> ) | Electrical Conductivity (MS/m) |
|-----------|------------------------------|--------------------------------|
| No Cap    | n/a                          | n/a                            |
| Gold      | 19.3                         | 41                             |
| Palladium | 11.9                         | 10                             |
| Ruthenium | 12.2                         | 14                             |
| Tantalum  | 16.65                        | 7.7                            |
| Platinum  | 21.45                        | 9.43                           |
| Nichrome  | 0.84                         | 1                              |