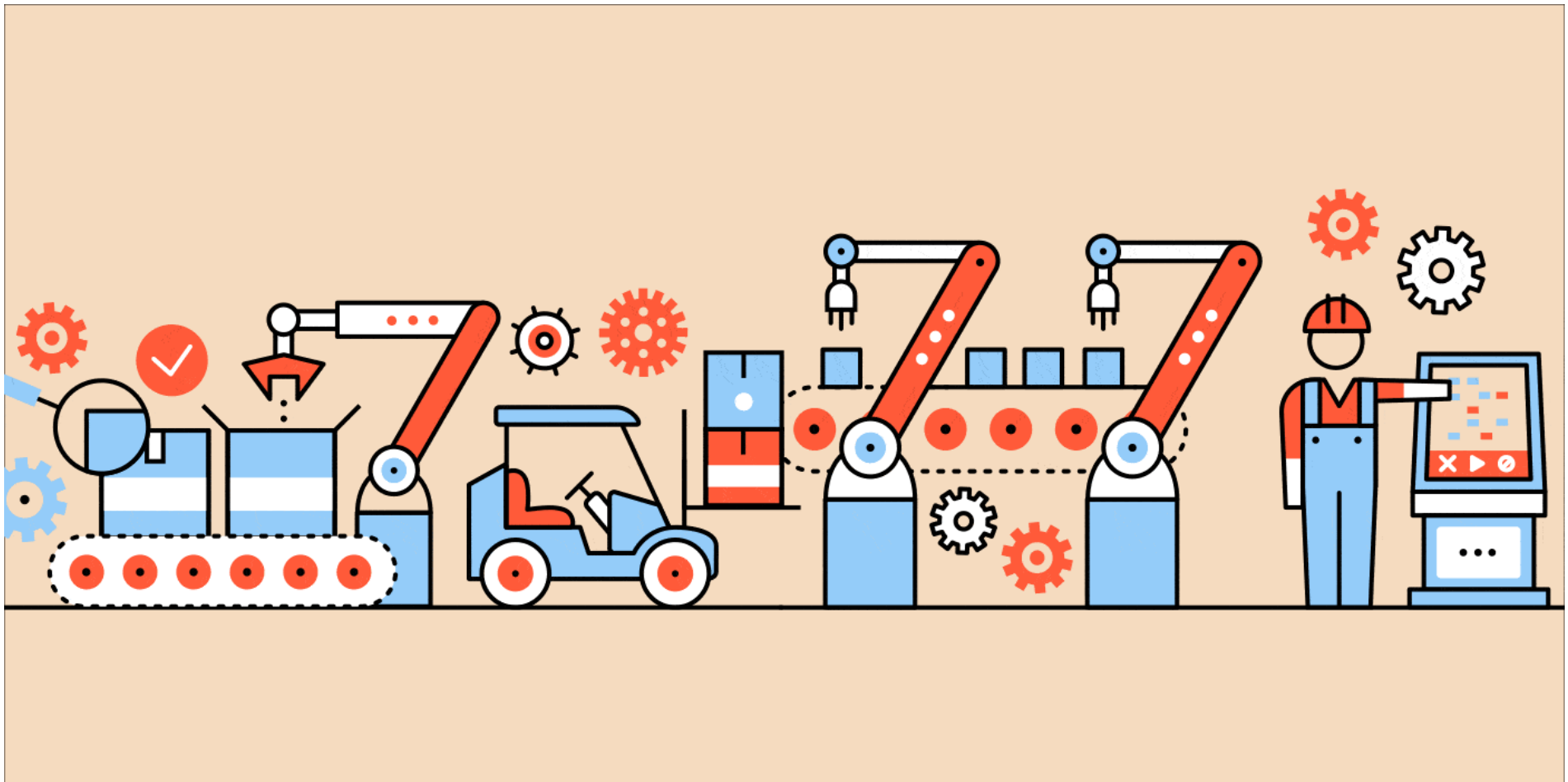# Configuration Management

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Introduction to Configuration Management

This lecture: overview of the topic & a deep dive of the data recorder project's management of configuration as a case study.

Provisioning and Configuration Management

The two terms *Provisioning* and *Configuration Management* are often used interchangeably, but have different meanings:

- **Provisioning:** is the installation of those things which are necessary for infrastructure to operate; typically happens at the beginning.

- **Configuration Management:** is an ongoing process which seeks to standardise configurations across a number of different environments.

Configuration management is important to *systems* for them to be operated efficiently and at scale.

Configuration Management Principles

Ultimately, if you have a good configuration management strategy you should be able to answer "yes" to all of the following questions:

- Can I exactly reproduce any of my environments, . . . and their configuration?

- Can I easily make an incremental change . . . and deploy the change to all my environments?

- Can I easily see each change . . . and trace it back to see exactly what the change was, who made it, and when they made it?

- Can I satisfy all of the compliance regulations that I am subject to?

- Is it easy for every member of the team to get the information they need, and to make the changes they need to make?

–Continuous Delivery

Case Study

Key points to note about configuration management in the data recorder project:

- Separation of configuration from the business logic.

- Version control of configuration

- Device configuration `config.json`

- Internal configuration: modem, WiFi access point, etc.

- Utility configuration: MQTT subscriber

- Provisioning

Further Reading

- Continuous Delivery, Jez Humble and David Farley (2011). Chapter 2 *Configuration Management*.

- Guide to the Software Engineering Body of Knowledge (SWEBOK) v. 3.0.

- Guide to the Systems Engineering Body of Knowledge (SEBOK) v. 2.7.