

# Intelligent Machine Control



**R. Williams**  
**Senior Manager**  
**Design & Development**  
**Komatsu UK Ltd**

# What is Intelligent Machine Control?

- Machine guidance – shows the operator where to dig
- Semi-automatic control – helps the operator keep the design surface
- Man-machine communication – aids site management



## Improved Machine Efficiency

- Eliminates need for staking
- Reduces risk of over digging
- Change jobsite design easily
- Improve jobsite management

# Current job site

Ground works stopped whilst survey work in progress

Site Manager checking progress

Surveyor checking location of ground works with GPS Rover

Staking put in place previously by surveyor to show location of ground works



# Future job site

**No personnel in vicinity of machine – improved safety**

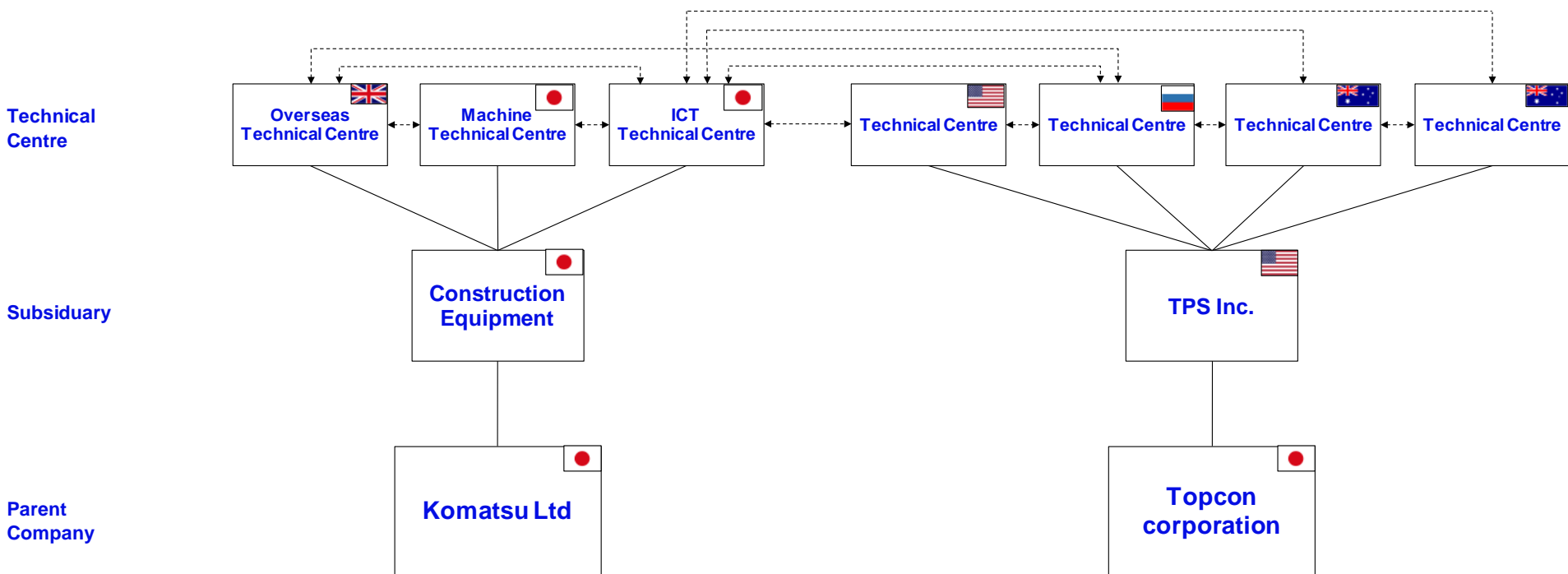
**Site Manager can check progress from office**



**Operator can check location of ground works using machine**

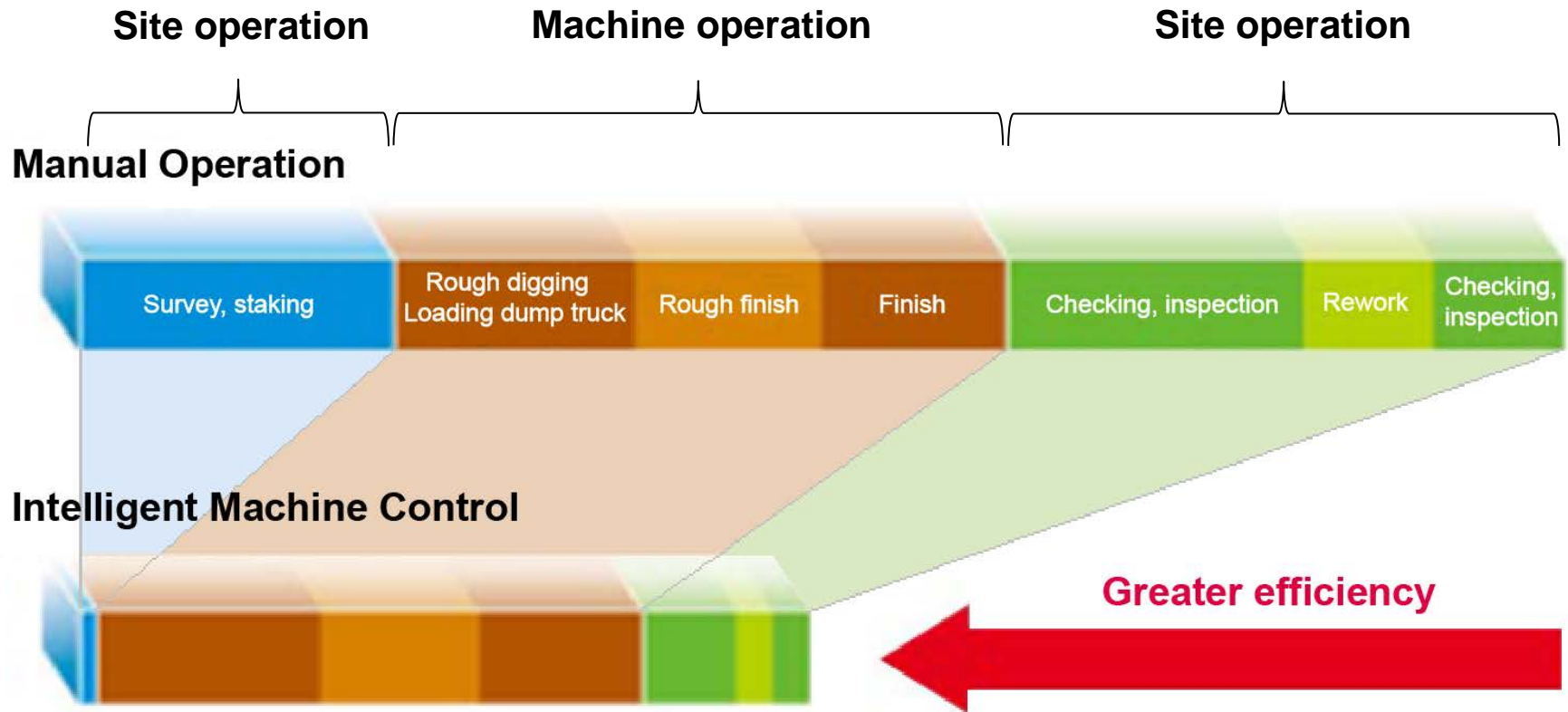
**No staking – operator follows plan on monitor**

# Development Challenges



<b>Sales (m¥)</b>	1,954		117
<b>Employees</b>	47,208		3977
<b>Culture (Corporate)</b>	Japanese	↔	Japanese
<b>Culture (Development)</b>	English ↔ Japanese	↔	American ↔ Russian ↔ Australian
<b>Knowhow</b>	Construction Equipment		Surveying / Positioning Instruments
<b>Manufacturing</b>	Mass Production		Small Scale

# Challenges of bringing Intelligent Machine Control to Market

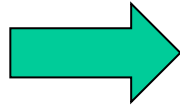


**Main efficiency improvements are site based rather than machine based**

# Challenges of bringing Intelligent Machine Control to market



Surveying, Staking, Checking



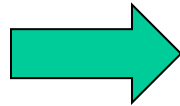
Base station set-up, Control Points,  
Localisation



Radio set-up, Modem set-up



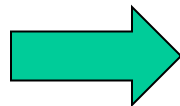
Site Plans



CAD site models



Site based management



Office based site management

A close-up, low-angle shot of a yellow Komatsu excavator arm against a clear blue sky. The arm is the central focus, extending from the bottom left towards the top right. The word "KOMATSU" is printed in large, bold, blue capital letters on the side of the arm. Various hydraulic hoses and mechanical components are visible along the length of the arm. A yellow warning label with a black triangle and a person icon is also visible on the arm's surface.

**KOMATSU**

**Thank you  
Questions**