

**FANUC**

# Smooth high-speed motion for more robot productivity

LVC SUPPRESSES VIBRATION  
ON HEAVY WORKPIECES



**FANUC LVC** (Learning  
Vibration Control)

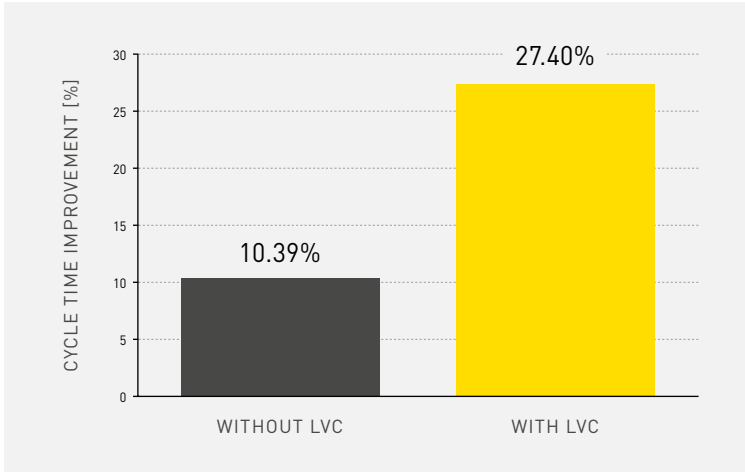


## Benefits of the FANUC learning robot:

- improved cycle times
- less teaching time
- maximum accuracy
- reduced vibration
- increased productivity
- more accuracy at high speeds
- simplified cycle time optimisation
- enhanced motion performance

# More speed and minimum vibration

FANUC LVC is the perfect solution for processes, such as spot welding, that require increased accuracy at high speeds. The software, which is unique to FANUC, allows the robot to learn the vibration characteristics of a path using an accelerometer. This enables it to optimise the path and achieve higher speeds while keeping vibration to a minimum – even at maximum speed. Getting the most out of the robot, this results in considerably shorter cycle times and maximum accuracy.



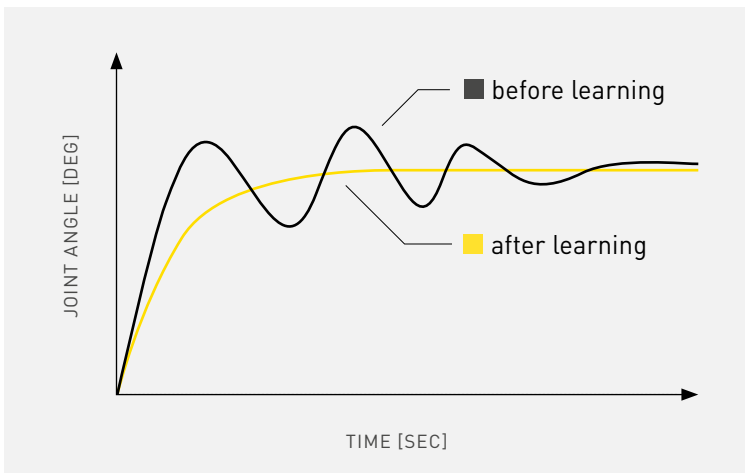
## LVC for better cycle times

LVC can reduce cycle times and boost productivity by improving the time it takes a robot to complete a path. In a body shop, for example, this could reduce the number of robots required to complete a process, lowering costs, saving energy and floor space. Teaching time is also reduced since operator skills are not crucial to the process.



## Learning Vibration Control

Once a path has been taught, an accelerometer (FANUC's 3D ACC sensor) is mounted to the end effector or servo gun. The taught path is then run several times so the accelerometer can measure vibration and learn important information about the robot's motion. Afterwards the sensor is removed, and the data is used during the cycle to suppress vibration and provide faster motion.



## Higher productivity

Using the data gathered by the accelerometer, FANUC robots learn and streamline their motion to achieve higher overall speeds and cycle times that are between 10 and 15% faster. This solution has considerable benefits on operations involving large and heavy parts with lots of inertia or on spot welding applications.



**LVC supports the following soft- and hardware options:** SpotTool+ (for spot motion), HandlingTool (for tending motion) in multi-group and multi-arm environments, LVC software option and line tracking board.



**Simulation with ROBOGUIDE**  
LVC is supported by ROBOGUIDE which can be used to simulate cycle times in advance.