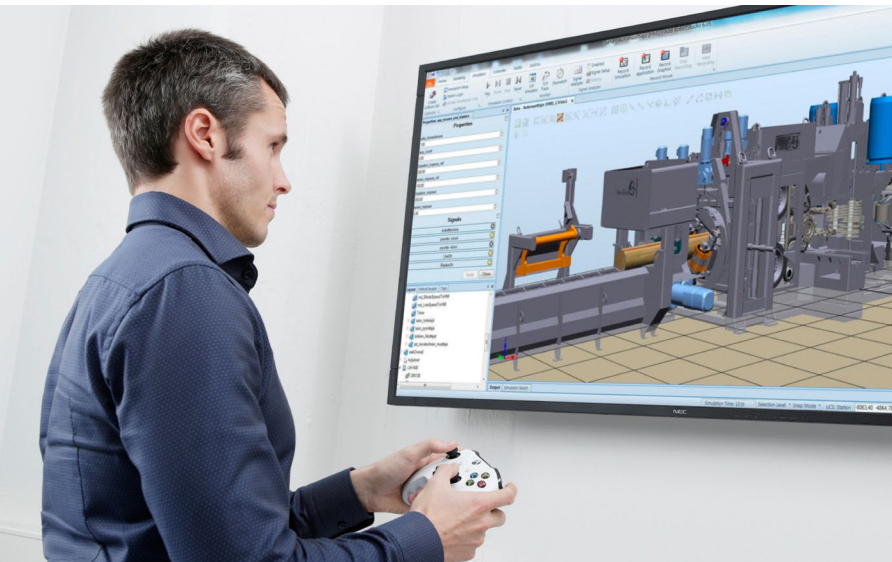# ABB Ability™ Virtual Commissioning for drives
Save time, reduce risk, and increase engineering productivity

Virtual engineering and commissioning allow machine builders and system integrators to develop and simulate entire industrial processing lines and machines, including ABB drives, without actually running the hardware. This provides valuable benefits in the phases of designing, commissioning and operating machines.

Design safely and efficiently
Engineers can start configuring and programming drives well before receiving them from the ABB production line, since the same software tools, like Drive Composer Pro, can be used with virtual and real drives. Virtualization can also cover the kinematic and physical behavior of the machine and the overriding automation. Virtual drives can also be used with the ABB Robot Studio and ABB Automation Builder programming tools to build more complete virtual machines and processing lines.

After deploying the virtual machine on-site, any future improvements can be virtually tested before implementing them in the process. This all supports safety and quality in the engineering process.

Benefits
Throughout the value chain, from sales, marketing, and training to field engineering and product development, virtual commissioning takes the mystery out of drive applications and makes it easier to:
- Design, test and learn drive applications virtually with the same software tools as for the actual hardware
- Train users and engineers with the simulation application
- Tune up drive parameters easily off-site before going into more demanding on-site testing
- Find and solve potential problems earlier
- Save time and money due to faster drive commissioning
- Assist the dimensioning and energy optimization of electromechanical drive systems
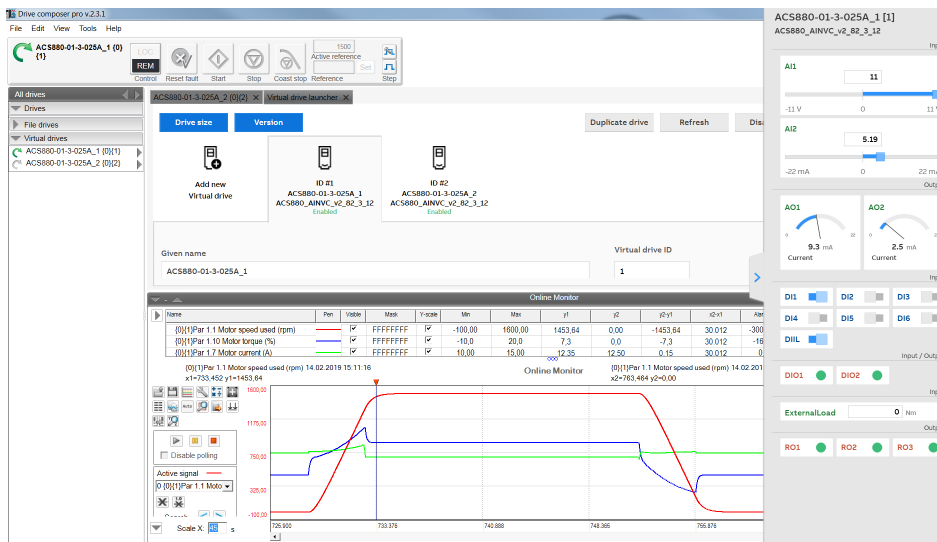
—
Virtual drives are commissioned in the same way as the real drives, using the Drive composer pro tool. Many tasks can be completed effortlessly off-site.

Virtual drives are offered in three editions:
Engineering, Applications and System Integration – for three levels of added value. Virtual drives work seamlessly with ABB Drive Size, ABB Drive Composer Pro, ABB Automation Builder, ABB Drive Application Builder and ABB Robot Studio software, allowing the virtual design and commissioning work happen well in advance before the real hardware is available.

—
Product descriptions

Engineering Edition
- Virtual Drive launch and configuration
- Drive run with a virtual motor and configurable loads
- Dimensioning verification of drive, motor and load setups
- Drive tuning and testing with I/O- and fieldbus data console
- PLC interface test together with ABB Automation Builder system testing (PROFINET/PROFIBUS)
- Making and testing of adaptive programs for drives
- Parameters restore and backup between real and virtual drives

Application Edition
- All Engineering Edition functionalities
- Flexible development and testing of drive based applications (IEC 61131-3) without hardware, using Drive Application Builder tool
- Ready-made packages for typical drive applications (available with own installer and license)
- Fast learning, testing and dimensioning of Crane and Warehouse applications
- 3D CAD and physics models of RobotStudio application

System Integration Edition
- All Engineering Edition functionalities
- Virtual Drive integration as a component to common simulation systems
- Function Mock-up Interface (FMI) standard support
- Co-simulation mode

Minimum requirement for PC workstation: CPU 2.5 GHz Intel i5 level, 8GB central memory.

Code	Type designator	Description
		Engineering Edition
3AXD50000343102	VD-ENGINEERING	Virtual drive, motor and load simulation, dimensioning and testing consoles, adaptive programming
3AXD50000343119	VD-ENGINEERING-MULTIPLE-WS	Virtual drive, motor and load simulation, dimensioning and testing consoles, adaptive programming for multiple workstations (10)
		Application Edition
3AXD50000343126	VD-APPLICATION-PROGRAMMING	Virtual drive, motor and load simulation, dimensioning and testing consoles and application (IEC) programming
3AXD50000343133	VD-APPLICATION-PROG-MULTIPLE-WS	Virtual drive, motor and load simulation, dimensioning and testing consoles and application (IEC) programming, multiple workstations (5)
		System Integration Edition
Contact ABB representative	VD-FMI-ADD-ON	Virtual drive interface for System with Function Mock-up Interface (FMI) for multiple drive instance

—
For more information please contact your local ABB representative or visit:

abb.com/drives

—