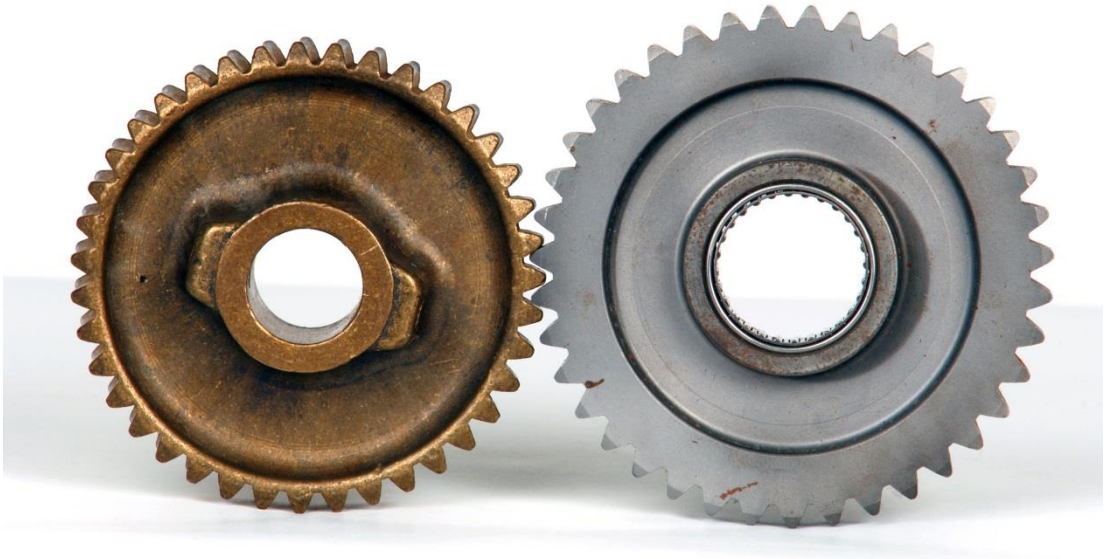
Zwick / Roell

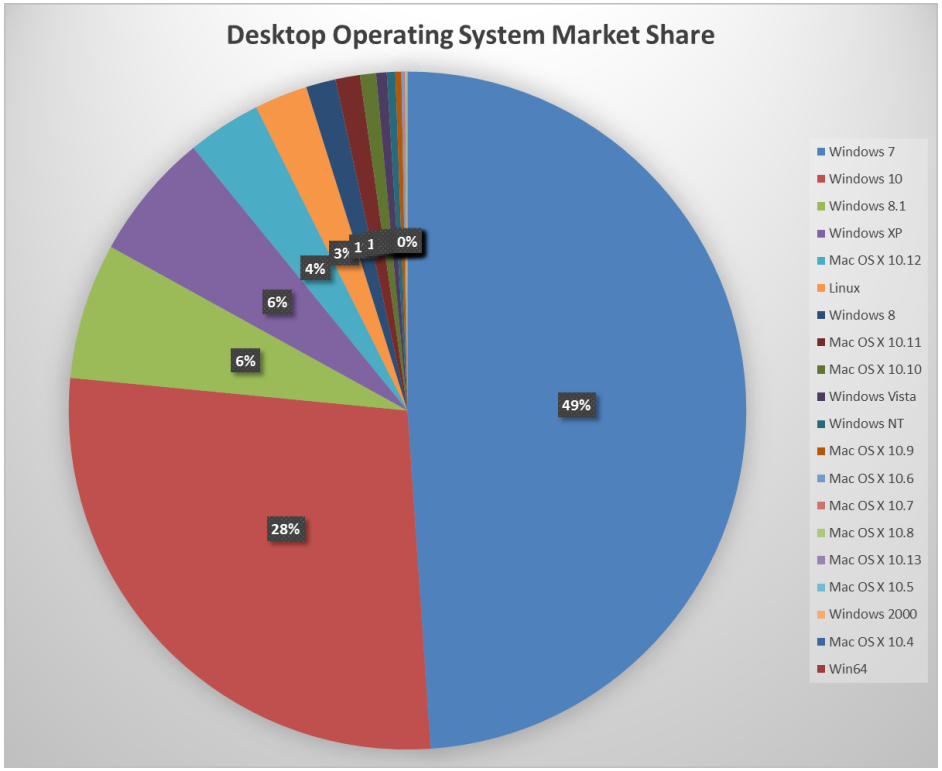
Intelligent Testing

Service Reliability and Upgradeability for Older Testing Machines

Ulm, 18 October 2017



Operating System lifecycles and their end of support influence IT decisions and, consequently, how machines are operated.

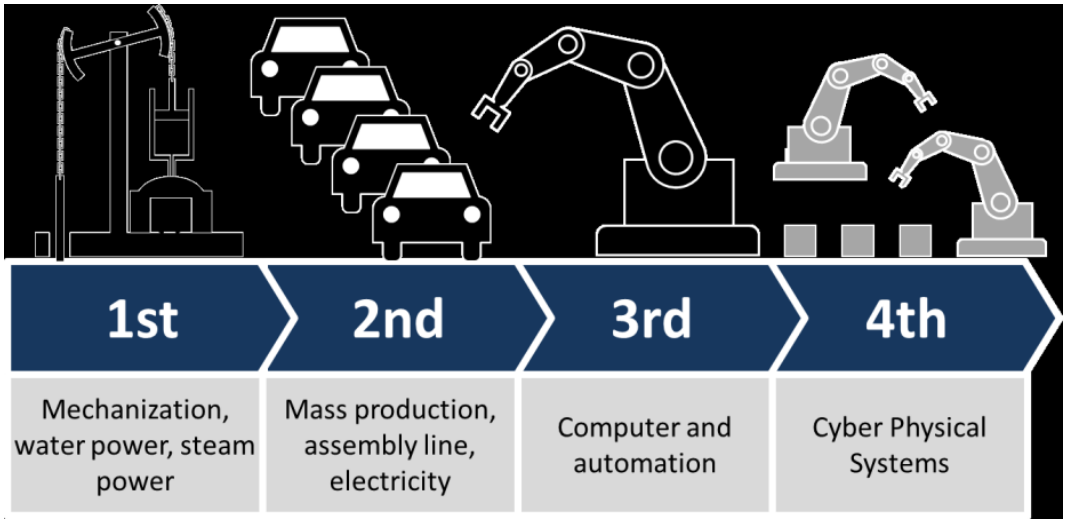


Source: Netmarketshare.com, Desktop Operating System Market Share, 28.8.2017

- Most of the world‘s PCs use Windows 7, for which support will stop in 2020
- 6% of PCs still use Windows XP, which is not supported since 2014
- Windows Vista was released about 5 years after Windows XP and Windows 10 was released less than 2 years after Windows 8.1 → faster developments require regular software updates

Trends in Industry

One of the buzzwords for the future is Industry 4.0. According to a survey of 300 experts, 80% of companies expect Industry 4.0 to impact their business model[1]. These changes will affect how and why we test.



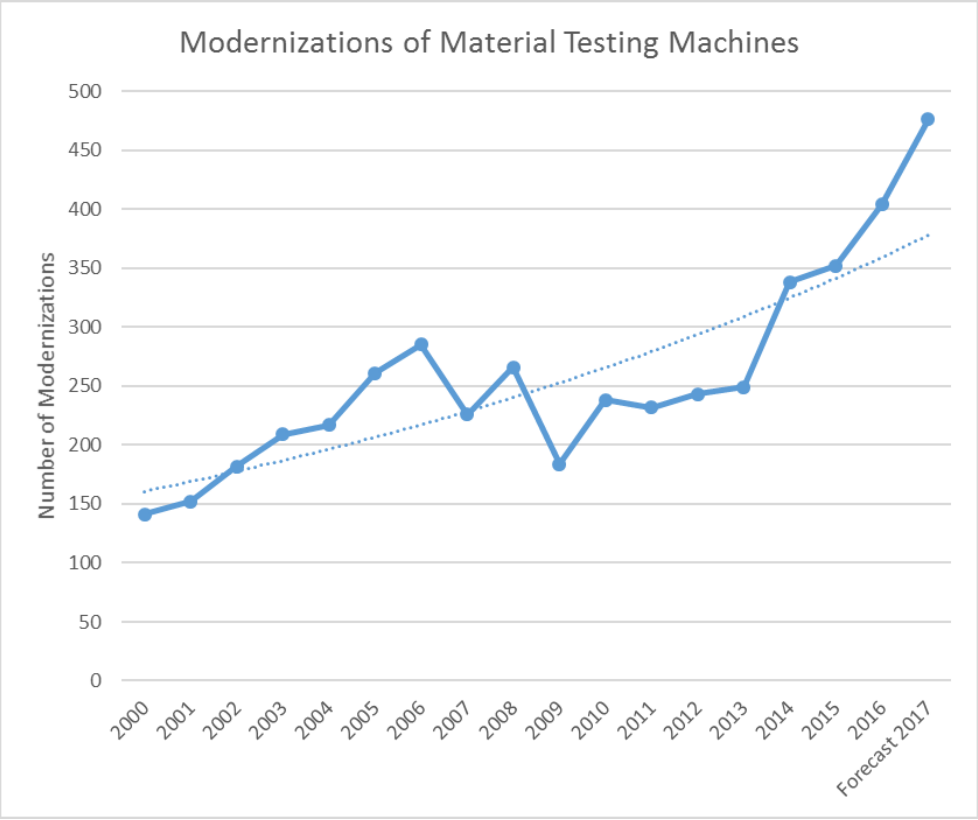
Source: By Christoph Roser at AllAboutLean.com under the free CC-BY-SA 4.0 license.

- Data analysis and integration of production into IT drives new production techniques to achieve increases in productivity
- Centralizing data storage is also a key driver
- Other aspects of Industry 4.0 include automation, interface between humans and machines, Internet of Things, etc.

[1] Industry 4.0 How to navigate digitization of the manufacturing sector, McKinsey Digital, 2015

Trends in Modernization

Modernizations of material testing machines have grown steadily at an average annual growth rate of 8% over the past 16 years. Investments in modernizing equipment result in a higher utilization of existing resources.



- Older equipment is usually in good condition but out of sync with advances in IT and electronics
- Investments in older equipment allow users to maximize functionality with new sensors and software features
- Testing laboratories sometimes look to modernizing equipment in combination with new investments

Long-Term Support Concept

We are your partners for long-term support – our products are a secure investment.

Purchase

Consulting
Demonstration
Pre-Testing

Commissioning

Preliminary acceptance
Installation
Instruction
Initial calibration
DQ / IQ / OQ

Operating the machine

Maintenance / inspection / calibration
Retrofitting
Machine relocation

Hotline / support desk
Repairs
Spare parts
Software services
Training courses – ZwickAcademy
Contract testing

…

Modernization
Machine return
Procurement

Reliable Service and Upgradeability

Zwick guarantees availability of spare parts and service for 10 years from end of production, with a grace period of a further 5 years where possible.

	1992 ... 2004	1994 ... 2006	2002 ... 2016[1]	2012 ...
	DUPS electronic	MOPS electronic	testControl electronic	testControl II electronic
reliable service	No	No	Yes	Yes
upgradeability	No	No	Yes	Yes
testXpert® III	No	No	Yes	Yes

[1] Except hardness and special systems

This matrix applies exclusively to electromechanical static standard testing machines

Software & Electronic Compatibility

Electronics, test software and operating systems are directly related. Compatibility ensures a reliable level of support.

		testControl	testControl II
Microsoft Windows xp *End of MS Support 8. April 2014*	testXpert® [1]	V9.01 - V12.3	not available
	testXpert® II	V2.0 - V3.61	V3.4 - 3.61
Windows Vista *End of MS Support 11. April 2017*	testXpert® II	≥ V2.2	≥ V3.4
Windows 7 Windows 8 Windows 10	testXpert® III	≥ V1.1	

[1] Except hardness and special systems

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Modernization Concept

After modernization by Zwick any machine will be state-of-the-art and a genuine future-proof ‘Zwick’.

Maintenance-free

AC drive

for greater precision, outstanding control dynamics and high efficiency

Existing

sensors and accessories

remain in use and can be expanded via the extensive Zwick range

Modular

testControl II

measurement and control electronics for enhanced performance in the most demanding applications

Intelligent and reliable

testXpert® III

testing software for all applications

Modernization Concept

Zwick’s expertise can modernize any machine – made by Zwick or other manufacturers.

Zwick has performed more than 4.000 modernizations

almost 40% of all Zwick modernizations are performed on machines produced by other manufacturers (approx. 50 different brands)

OVERVIEW

Modernization Concept

Modernization technology for dynamic testing systems

testControl II & testXpert R

- state-of-the-art technology for single-axis testing systems
- operator safety maximized by 2-channel safety circuit and operating-mode selection-switch for setup and testing modes
- modular design with 6 freely selectable slots for maximum flexibility

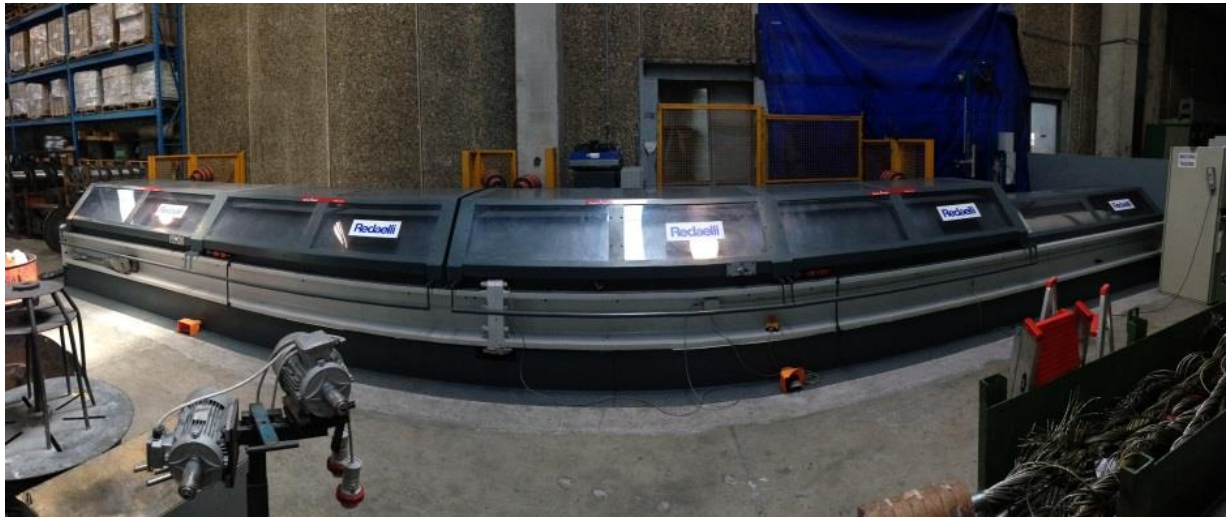
Control Cube servo controller & Cubus software

- simple operation of complex testing systems
- modular software structure for optimum adaptation to testing requirements
- ideal for multiaxial test benches

Case Study: Redaelli, Italy

Tensile tests at 3,000kN - Zwick modernizes testing machine for steel wire ropes at Redaelli.

- Redaelli‘s core product is specialty wire ropes, mostly for offshore and mining industries
- The user tested most samples at a nearby University that had a 3MN machine
- After the modernization, the customer could
  - increase their testing capacity up to 3MN (formerly 2.5MN)
  - test according to EN and ISO with the higher testing capacity and specially-designed wedge grips
  - obtain a new CE marking for safety with a specially designed safety shield



Case Study: MPA BAU Hannover, Germany

The MPA BAU Hannover Institute invests in the latest technology through a modernization of two Zwick machines.

- The MPA BAU Hannover institute provides independent materials testing, component testing and design testing in the construction field
- The laboratories use 2 Zwick testing machines built in 1996 and 2001
- After the modernization to testControl II, the user could
  - rely on guaranteed spare part availability with the new testControl II electronics
  - use new optical sensors to their full capability with testControl II
  - use the latest software features available with testXpert II

Case Study: Schoeller Werk, Germany

Uniform laboratory platform guarantees efficient quality assurance.

- Schoeller Werk is a leading manufacturer of stainless steel welded pipes
- They invested in a modernization and a new machine to handle increased test throughput
- Test results are stored in a central database with the data exchange automatically managed by testXpert II

Summary

Modernization of old testing equipment is driven by growing or changing test needs. Reevaluating these needs are critical in determining the best solution for an individual situation.

- Trends in **IT** and changing **industry** needs drive the modernization concept
- Modernizations allow testers to increase **utilization** of existing equipment by adding **software** features and new **sensors**
- Guaranteed **spare part** availability is renewed and reliable due to the use of new electronic and drive system components

Thank You!