

Tools for the Engineer of 2020

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National Instruments

Offering graphical system design solutions for Test and Measurement and Industrial Embedded



Cilj 2020: 40% s diplomom! Kako?

IZVOR: 892, BETA

Beograd -- Vlada Srbije u četvrtak bi trebalo usvojiti Strategiju obrazovanja čiji je cilj da se do 2020. poveća procenat visokoobrazovanih sa 6,5 na 40 odsto!



U strategiji, bar u onom delu koji je do sada poznat javnosti, niko nije pojasnio kako je to moguće ostvariti. Za sada je samo zacrtan cilj da bi najmanje 38,5 odsto građana Srbije starosti između 30 i 34 godine 2020. godine trobale da ima fakultetsku diplomu. Sada je ima 22 prosenta ljudi u tim

Izvor: B92

"U strategiji, bar u onom delu koji je do sada poznat javnosti, niko nije pojasnio kako je to moguće ostvariti. Za sada je samo zacrtan cili da bi najmanje 38,5% građana Srbije starosti između 30 i 34 godine 2020. godine trebalo da ima fakultetsku diplomu. Sada je ima 23 procenta ljudi u tim godinama, a u ukupnom stanovništvu svega 6,5 odsto je visoko obrazovano."

Today's Engineering Challenges

- Doing more with less
- Managing global operations
- Getting increasingly complex products to market

faster

- Adapting to evolving application requirements
- Maximizing operational efficiency
- Minimizing power consumption



The Engineer of 2020

- A system designer
- Collaborative and resourceful
- Creative and driven to innovate
- A global citizen
- Leader in business and public service
- Ethically grounded



Engineering Grand Challenges



Make solar energy economical



Provide energy from fusion



Develop carbon sequestration methods



Manage the nitrogen cycle



Provide access to clean water



Restore and improve urban infrastructure



Advance health informatics



Engineer better medicines



Reverse-engineer the brain



Prevent nuclear terror



Secure cyberspace



Enhance virtual reality



Advance personalized learning



Engineer the tools of scientific discovery



Using LabVIEW to Develop the GammaKey System for Acquiring, Storing, Retrieving, and Processing Gamma Studies

"Using National Instruments data acquisition (DAQ) hardware and NI LabVIEW software we have managed to design a Windowsbased acquisition system that supports analog gamma cameras in daily clinical practice."



Kindegrarden to Rocket Science





LEGO Education WeDo





CERN Large Hadron Collider

Scalable Software Abstraction



System Complexity





Customizable User Interface

Front panel allows you to manipulate code and analyze results in real time, so you can adjust cause-and-effect relationships and control your robot.





Connectivity



Math, Measurement and Data Analysis



Interactive Debugging

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Open Integration with C



Demo















Data Acquisition with LabVIEW











NI ELVIS

Multidisciplinary Teaching & Engineering Platform

NI ELVIS

NI ELVIS Family







	NI ELVIS	NI ELVIS II	NI ELVIS II+
12 Instrument Suite			
PCI/PCMCIA			
Multisim Integration			\bigcirc
USB Plug-and-Play			
DAQmx API /MAX Support			
5½ Digit DMM (floating)			
5M Hz Sine FGEN			
100MS/s Oscilloscope		1.25MS/s	

NI ELVIS II | Hardware Specifications

Oscilloscope

- 16-bit resolution
- 1.25 MS/s single channel, 500kS/s two channel aggregate
- 1 to 1.5 MHz Bandwidth
- 1x and 10x probe
- ±10 V input range
- AC/DC coupling



NI ELVIS II | Hardware Specifications

Impedance Analyzer

- 0.2 Hz to 35 kHz Range
- NPN, PNP, Diode

Other Analyzers:

- Bode Analyzer
- 2-wire Current Voltage Analyzer
- 3-Wire Current Voltage Analyzer

Prototyping Board-

- Updated connections
- Detachable
- User-defined Banana Plugs, BNC, D-Sub connectors

Integrated DAQ

- AI sampling rate 1.25 MS/s single channel, 500kS/s two channel
- 16-bit resolution
- AO 2.8 MS/s update rate
- 24 DIO lines,15 PFI, 2 CTR

Variable Power Supply

- 10-bit resolution
- 0 to +12V, 0 to -12V
- 500 mA current range

NI ELVISmx Virtual Instruments



- Digital Multimeter
- Oscilloscope
- Function Generator
- Variable Power Supply
- Bode Analyzer
- Dynamic Signal Analyzer

- Arbitrary Waveform Generator
- Digital Reader
- Digital Writer
- Impedance Analyzer
- 2-wire Current-Voltage Analyzer
 - 3-wire Current-Voltage Analyzer

Meet myDAQ.



Your mighty, multi-function, data acquisition learning station, built just for students.



myDAQ connects your PC to hundreds of sensors and controls—from home-made to high-tech.

Plug it in. Watch it go.



With LabVIEW, myDAQ fully replicates thousands of dollars in instrumentation. And lets you make your own too.

Don't spend more. Just get more.





myDAQ + LabVIEW fully replicates thousands of dollars in instrumentation. And lets you make your own too.

Put engineering technology in your classroom.



- ✓ Teach industry-proven techniques.
- ✓ Use the same components found in NI's professional DAQ tools.
- ✓ Get 30 years of NI DAQ experience, distilled just for students.
- Keep them engaged with hands-on exploration and inquiry.





"WeDo"



LEGO MINDSTORMS NXT



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