WORK PACKAGE Type	Deliverable Ref. N°	Nature, type and specifications of the item	Beneficiary Institution (Short name)	Country Code	VAT and Taxes * (€)	Equipment Costs Total, excluding VAT and Taxes (€)	
DEV	3,3	**Digital concrete test hammer with calibration anvil- 58-C0181G (producer CONTROLS):** For the non-destructive testing of the surface of hardened concrete in order to evaluate the strenght in various parts of a structure	SUNP	RS		3000	
	3,3	**Ultrasonic pulse velocity/ 58-E0048/B(producer CONTROLS) - Dual tester or including electronic rebound hammer directly connected;** Measures the velocity of ultrasonic pulses throgh a concrete section providing information on cracks, voids,strength and giv	SUNP	RS		3600	
	3,3	**Solar-Wind-Fuel cells energy trainer- KE-RE3002;** Designed for the study of renewable energies: solar energy, wind energy and hydrogen fuel cell systems.It includes electrolyser cell 5, RFC H2/O2/Air, PEMFC kit, gas storage, solar module, battery box, powe	SUNP	RS		3000	
	3,3	**Hitachi StarBoard FX-DUo-88**; Designed for use in smaller classes and boardrooms, the StarBoard FX DUO-88 Interactive White Board allows up to two inputs for multi-touch control on a durable, electronic-free surface, and a 16:10 aspect ratio that provides	SUNP	RS		2800	
	3,3	**Software for Thermovision camera FLIR T420 (model FLIR-T62101)**	SUNP	RS		295	
	3,3	**Computer controlled Charpy Impact testing machine JBW-300 FOB Tianjin;** JBW Sereis Charpy (simple-beam) Impact Testing Machine mainly used to determine the anti-impact capability of ferrous metal materials with high toughness, especially for steel and iron	SUNP	RS		8000	
	3,3	**Wide angle lens for Thermovision camera FLIR T420 (model FLIR-T62101)**	SUNP	RS		2600	
	3,3	**The software for the calculation of energy consumption in buildings**	SUNP	RS		1000	
	3,3	Books for library : 1. Energy Efficiency Through Combined Heat and Power or Cogeneration, Energy Policies, Politics and Prices Series, David H. Thomas Nova Science Publishers , 2010 2. Handbook for cogeneration and combined cycle power plants, Meherwan P. Boyce, "American Society of Mech. Engineers," 2002 3. Building Performance Simulation for Design and Operation, Edited by Jan L.M. Hensen, Roberto Lamberts, Spon Press, 2011 4. Comfort Control in Buildings, Series: Advances in Industrial Control, Castilla Nieto, M.d.M., Álvarez Hervás, J.D., Rodríguez Diaz, F., Berenguel Soria, M., Springer, 2014 5. Exergy, Energy System Analysis and Optimization - Exergy and Thermodynamic Analysis, Vol. 1, Frangopoulos C., EOLSS Publishers Co. Ltd, 2009 6. Artificial Intelligence in Energy and Renewable Energy, Soteris Kalogirou, Nova Science Publishers, 2007 7. S. Medved: Buildings physics, DUNP, 2014. 8.Mc Quinston F. Parker J., Spliter J. ; Heating, Ventilation and Air Contitioning, analysis and Design, Wiley & Sohn, USA,2005. 9.Lechner N.: Heating, Cooling, Lighting: Sustainable Design Methods for Architects, Wiley & Sohn, USA, 2008. 10. Medved S., Arkar C. ; Applied Lighting Technologies for Urban Buildings, Earthcan, UK, 2006. 11. Egan M. D. ; Architectural Acoustics, J. Ross Publishing, NY, USA 2007. 12. Werner W.; Solar Heating Systems for House; IEA 2003. 13. L.D.D. Harvey; A handbook on Low-Energy Buildings and District-Energy Systems, Earthscan, UK, 2006. 14. S. Medved; Gradjevinska Fizika, DUNP, 2014 15. B. Sorensen; Renewable energy conservation, transmission and storage; Elsevier, USA, 2007 16. B. Lenz, J. Schreiber, T. Stark; Sustainable building services, Detail Green Books; Germany, 2011 17. K. Daniels, R. E. Hammann; Energy Design for Tomorrow; Edition Axel Menges; Germany, 2008 18. Environmental impacts of wind-energy projects, The national academies press, Washington, D.C., 2007 19. John Twidell, Tony Weir; Renewable Energy Resources, Taylor & Francis, 2005 20. B. Sorensen,; Renewable Energy:Physics, Engineering, Environmental Impacts, Economics&Planning, Elsevier, 2010	SUNP	RS		2000	26295
	3,3	**Lighting transmitter:**Power supply 16-40V, DC ili 24V, AC; Output 4-20mA; Range 2-200klux; Sensor Si photodiode; Protection IP 67; Illumination 5-500mV/lux; Operating temperature -20 do +60°C	UB	RS		550	
	3,3	**8-Channel Data Logger for Pt100:** Storage time step: 1s, 5s, 30s, 1min, 2min,5min, 10min, 15min, 30min ili 1h; Storage capacity: 96000 sempls, on each channel; Simultaneous display of measurement results in the display of all eight channels; USB connecti	UB	RS		1550	
	3,3	**Pt100 probes with Sicram module;** Immersion probe, length 300 mm, diameter 3 mm, measuring range from -196 to 500 ° C, response time 3s ; Immersion probe length 230mm, diameter 3 mm, measuring range from -50 to 400 ° C, response time 3s; Core probe, lengt	UB	RS		920	
	3,3	**Netbook for connection with Data Logger;** Screen 10.1" LED Backlight WSVGA Touchscreen, 1024 x 600 piksels ; Processor: Intel® Atom™ N470, 1.83GHz,FSB: 667MHz ; Graphics card: Intel, Integrated GMA 3150,Intel Graphics Media Accelerator 3150 to 128MB devide	UB	RS		280	
	3,3	**Laptop ;** Processor: i7-4600U ; Processor frequency: 2.1GHz ;Screen: 14.0in HD+ LED ; Screen resolution: 2560 x 1440 px ;Graphics card: Intel HD 4400 ;RAM memory: 8GB ; Hard disc: 1x256GB SSD, HD 4400 ;Communication LAN, WLAN 802.11b, WLAN 802.11g, WLAN 80	UB	RS		3120	
	3,3	**Video beam :** ANSi: 6000-7000 ;Contrast ratio: 2000:1 ;Resolution: 1920x1200 ; Technology: DLP ; Video out: D-Sub, RS-232. S-Video, VGA ; (Definition correspond to: Panasonic PT-DZ6710UL DLP Projector)	UB	RS		1700	
	3,3	**SIEMENS Trainer Packages :** SINAMICS G120 SCE TRAINER PAKET; SENTRON PAC4200, LCD, 96X96MM POWER MONITORING DEVICE ; TRAINING BUNDLE CPU 1516-3 PN/D, ACCESSORIES.	UB	RS		4514	
	3,3	**TPS2012B :** TektronixOscilloscope; Digital Storage,100MHz,1GS/s, 2 Isolated Channels, TFTColorDisplay, Battery Powered, CertificateofTraceable Calibration Standard	UB	RS		2234	
	3,3	**AC2100 :** Soft CarryingCase	UB	RS		109	
	3,3	**Laptop ;** Asus Transformer Book T300 - I7 processor,8Gb, 256HDD SSD, 13.3" 1920/1080, Intel HD graphics 4400	UB	RS		1050	
	3,3	**Desk top :** HP ENVY Recline 27-k040ea TouchSmart All-in-One PC - E8S58EA - Intel® Core™ i7-4770T (2.5 GHz, 8 MB cache, 4 jezgra), 8Gb, 1TB 5400 SATA, 27", 1920/1080	UB	RS		1250	
	3,3	**TV :**Lg 42LN575S LED televizor, 42" Smart TV Full HD, 100Hz MCI, Triple XD Engine, 1920 x 1080	UB	RS		450	
	3,3	**Fine particle measuring system** : Fine particle measuring system with parallel measurement of O2 i CO. Memory of 500.000 readings, range: -20 to 50oC, Graphic presentation of all measurement values in real time. (Definition correspond to: Testo 380)	UB	RS		6770	
	3,3	**Tools plus - Software for thermal imaging camera - FLIR :** Software for displaying the results of thermal imaging, writing reports, creating panoramas	UB	RS		295	
	3,3	**Books for library :** S. Medved: Buildings physics, DUNP 2014. (in Serbian)	UB	RS		200	24992

		Davis Vantage Pro2 wireless set with integrated sensors for dry-bulb air temperature, relative humidity, wind speed and wind direction and rain indicator: Temperature range: -40oC - 65oC; Transmission frequency: 868 - 868.8 MHz; Primary supply: solar; Back-up supply: Li-batteries: **Relative humidity sensor:** Measuring resolution: 1%, Measuring range: 1% to 100%, Nominal accuracy: ±3% (±4% if relative humidity is more than 90%) **; Outside air temperature sensor:** Measuring resolution: 0.10C, Measuring range -40oC to 65oC , Nominal accuracy: ±0.50C **; Wind direction sensor:** Measuring resolution: 1o, Measuring range: 0 do 360o, Nominal accuracy: ±3o **; Wind speed sensor:** Measuring resolution: 0.4 m/s; Measuring range: 1 m/s do 80 m/s; Nominal accuracy: ±5%; **Rainfall sensor:** Measuring resolution: 0.1 mm, Measuring range: 0 do 2438 mm/hr, Nominal accuracy: ±5% (up to 127 mm/hr) ;					
		Davis Vantage Pro2 wireless console/receiver with display for data acquisition sent from wireless set with integrated sensors and additional sensors: Operating temperature: -18 oC to +60 oC ; **Barometric pressure sensor:** Measuring resolution: 0.1 hPa, Measuring range: 540 hPa to 1100 hPa, Nominal accuracy: ±1.0 hPa; **Indoor air relative humidity sensor:** Measuring resolution: 0.1oC, Measuring range: 0oC to 60oC, Nominal accuracy: ±0.5oC ; **Indoor air temperature sensor:** Measuring resolution: 0.1oC, Measuring range: 0oC to 60oC, Nominal accuracy: ±0.5oC ; **Davis Vantage Pro2 data logger and specialized Windows based software for data acquisition, data storage and data processing equipped with USB port providing connection with console:** Data logger capacity: 2560 records, Sampling intervals: 1,5,10,15,30,60 and 120 minutes ;					
	3,3	**Davis Vantage Pro2 Global Solar Radiation sensor, dislocated from integrated set:** Measuring resolution: 1 W/m2, Measuring range: 0 W/m2 to 1800 W/m2, Nominal accuracy: ±5% ; **Davis Vantage Pro2 mounting kit for wind speed and direction sensor:** Operating temperature: -40oC to +65oC , Supply: solar , Back-up supply: batteries, Transmission frequency: 868 - 868,8 MHz ; **Davis Vantage Pro2 mounting tripod for automatic weather station ; Davis Vantage Pro2 mounting poll for wind sensor and solar radiation sensor ; Davis Vantage Pro2 protective housing for wireless console.**	UN	RS		2475,95	
	3,3	**Handheld ultrasonic flow meter STUF-200H** Application: water, hot water, cold water, sea water, pure water etc., different liquid types: chemicals, acids, alcohol; energy carriers in HVAC systems; drainage water etc. Characteristics: linearity 1%; repeatability 0.2%; accuracy: +/- 1% for velocity Response time: 0 to 999 sec; Velocities: +/- 0.01 ~ +/- 32 m/s (bi-directional); Pipe dimensions: 3/4" ~ 240"; pipe material: all materials; Units: SI; Totalizator: 7 units, for positive and negative flow; Fluid type: All fluids; Fluid temperature: 0 ~ 100 °C; Display: 4x16 signs; digital interface: RS-232; Transducer Model M1; Power supply: 3AAA Ni-H built-in batteries, 100-240VAC for charger; Data Logger: storage of up to 2000 lines of data; Casing material: aluminum	UN	RS		4172,06	
	3,3	**Multifunction instrument TESTO 435-4** Storage temperature: -30 to +70 °C; Operating temperature: -20 to +50 °C; Battery type: Alkali manganese, mignon, type AA; Battery duration 200 h (typical usage); Probe - type T (Cu-CuNi); Measuring range: -200 to +400 °C; Accuracy ±0.3 °C (-60 to +60 °C) ±0.3% mv (remaining range); Resolution: 0.1 °C; Probe type: NTC; Measuring range -50 to +150 °C; Accuracy ±0.2 °C (-25 to +74.9 °C); ±0.4 °C (-50 to -25.1 °C); ±0.4 °C (+75 to +99.9 °C); ±0.5% mv (remaining range); Resolution: 0.1 °C; Probe - type K; Measuring range -200 to +1370 °C; Accuracy ±0.3 °C (-60 to +60 °C); ±(0.2 °C +0.3% mv) (remaining range) Resolution: 0.1 °C; CO2 Probe; Measuring range 0 to +10000 ppm CO2 Resolution 1 ppm CO2 ; Probe – differential pressure; Measuring range 0 to +25 hPa Accuracy ±0.02 hPa (0 to +2 hPa); 1% mv (remaining range); Resolution 0.01 hPa; Probe – absolute pressure; Measuring range 0 to +2000 hPa Resolution 0.1 hPa; Probe – humidity sensor, cap.; Measuring range 0 to +100 %RH Resolution 0.1 %RH; Probe – hot wire; Measuring range 0 to +20 m/s Resolution 0.01 m/s; Probe - with propeller; Measuring range 0 to +60 m/s Resolution 0.01 m/s (60 vane); 0.1 m/s (16 vane); U-value probe; triple sensor for wall temperature-calibrated; Suite case for equipment; PC software and USB cable for	UN	RS		1711,36	
	3,3	**National Instruments LabVIEW Robotics Starter Kit (DaNI)** only for academic purposes	UN	RS		1560	
	3,3	**National Instumments ELVIS II 780381-01 with Quanser QNET Myoelectric Trainer 781384-01** only for academic purposes + Power Cord, 240V, 10A, Euro, Right Angle 763067-01	UN	RS		4250	
	3,3	**TANK-700-QM67W-i7/2G-R21** High performance Embedded Fanless System, Core i7-3610QE Quad Core, TDP 45W,2GB DDR3 on board memory, VGA/HDMI,USB3.0,2 x SATA3.0,SFP Fiber,3T3R 802.11a/b/g/n wireless, Isolated CAN,Audio,9-36V DC input, -20~60°C,R21 + 4GB DDR3 RAM 1333MHz +SSD Kingston 60GB	UN	RS		1150	
	3,3	**Motion Sensor MICROSOFT XBOX360 Kinect**	UN	RS		110	
	3,3	**Laptop Asus TransformerBook T300LA-C4008P** Win8 Pro 13.3" FHD IPS Touch, Intel Core i7-4, Intel® HD 4400, 4 GB DDR3, 256GB SSD(7 pieces)	UN	RS		7350	
	3,3	**Books for library:**1. Energy Efficiency Through Combined Heat and Power Or Cogeneration, Energy Policies, Politics and Prices Series, David H. Thomas Nova Science Publishers , 2010 2. Handbook for cogeneration and combined cycle power plants, Meherwan P. Boyce, "American Society of Mech. Engineers," 2002 3. Building Performance Simulation for Design and Operation, Edited by Jan L.M. Hensen, Roberto Lamberts, Spon Press, 2011 4. Comfort Control in Buildings, Series: Advances in Industrial Control, Castilla Nieto, M.d.M., Álvarez Hervás, J.D., Rodríguez Diaz, F., Berenguel Soria, M., Springer, 2014 5. Exergy, Energy System Analysis and Optimization - Exergy and Thermodynamic Analysis, Vol. 1, Frangopoulos C., EOLSS Publishers Co. Ltd, 2009 6. Artificial Intelligence in Energy and Renewable Energy, Soteris Kalogirou, Nova Science Publishers, 2007 7. Robotics, Vision and Control: Fundamental Algorithms in MATLAB (Springer Tracts in Advanced Robotics), P.Corke, Springer, 2011 8. Modern Control Systems (12th Edition), Richard C. Dorf, Robert H. Bishop, Prentice Hall, 2010 9. Fluid Mechanics & Dynamics Problem Solver (Problem Solvers Solution Guides), The Editors of REA, John M. Cimbala, Research & Education Association; 1983 10. A Textbook of Fluid Mechanics and Hydraulic Machines: (in S.I. Units), R. K. Bansal, Laxmi Publications, 2005	UN	RS		1120	23899,37
	3,3	**Industrial Thermal Imager** The GUIDE Industrial Thermal Imager- thermal imaging camera is used for plant condition monitoring, structural integrity inspection, quality control, and research and developmentin a wide range of industries - in a measurement range from -20 to 800 °C /-4 to 1470 °F. Allows the determination of the energy efficiency of buildings, as required by law on planning and construction of facilities necessary for certification. Data obtained using thermal imaging cameras are the basis for a "passport for buildings". On-board IR and visual cameras enable high resolution thermal and visual images to be stored simultaneously. Your preferred operational settings can be saved and recalled instantly. Automatic capabilities include hot spot and image centre detection.	UNSA	BA		6950	
	3,3	**Universal electronic extensometer** Universal electronic extensometer to measure the elongation of wires, steel rebars and round steel specimens, Measuring base::50 to 200 mm; Linearity: better than +1% or -1%. Max. travel:10 mm.	UNSA	BA		3000	
	3,3	**Digital concrete test hammer with calibration anvil- 58-C0181G (producer CONTROLS):** For the non-destructive testing of the surface of hardened concrete in order to evaluate the strenght in various parts of a structure	UNSA	BA		3000	
	3,3	**Ultrasonic pulse velocity/ 58-E0048/B(producer CONTROLS) - Dual tester or including electronic rebound hammer directly connected;** Measures the velocity of ultrasonic pulses throgh a concrete section providing information on cracks, voids,strength and gives quick estimates of dynamic modulus of elasticity and Poisson's Ratio, on site or in the laboratory.	UNSA	BA		3600	

	3,3	**Portable hardness tester**	UNSA	BA		2000	
	3,3	**Solar-Wind-Fuel cells energy trainer- KE-RE3002;** Designed for the study of renewable energies: solar energy, wind energy and hydrogen fuel cell systems.It includes electrolyser cell 5, RFC H2/O2/Air, PEMFC kit, gas storage, solar module, battery box, power supply, load (fan), load (car), cable, wind generator, decade resistor, multimeter.	UNSA	BA		3000	
	3,3	**Hitachi StarBoard FX-DUo-88**; Designed for use in smaller classes and boardrooms, the StarBoard FX DUO-88 Interactive White Board allows up to two inputs for multi-touch control on a durable, electronic-free surface, and a 16:10 aspect ratio that provides more presentation space and better mirror screen dimensions of wide aspect PC and laptop display settings.	UNSA	BA		2800	
	3,3	Books for library : 1. Energy Efficiency Through Combined Heat and Power or Cogeneration, Energy Policies, Politics and Prices Series, David H. Thomas Nova Science Publishers , 2010 2. Handbook for cogeneration and combined cycle power plants, Meherwan P. Boyce, "American Society of Mech. Engineers," 2002 3. Building Performance Simulation for Design and Operation, Edited by Jan L.M. Hensen, Roberto Lamberts, Spon Press, 2011 4. Comfort Control in Buildings, Series: Advances in Industrial Control, Castilla Nieto, M.d.M., Álvarez Hervás, J.D., Rodríguez Diaz, F., Berenguel Soria, M., Springer, 2014 5. Exergy, Energy System Analysis and Optimization - Exergy and Thermodynamic Analysis, Vol. 1, Frangopoulos C., EOLSS Publishers Co. Ltd, 2009 6. Artificial Intelligence in Energy and Renewable Energy, Soteris Kalogirou, Nova Science Publishers, 2007 7. S. Medved: Buildings physics, DUNP, 2014. 8.Mc Quinston F. Parker J., Spliter J. ; Heating, Ventilation and Air Contitioning, analysis and Design, Wiley & Sohn, USA,2005. 9.Lechner N.: Heating, Cooling, Lighting: Sustainable Design Methods for Architects, Wiley & Sohn, USA, 2008. 10. Medved S., Arkar C. ; Applied Lighting Technologies for Urban Buildings, Earthcan, UK, 2006. 11. Egan M. D. ; Architectural Acoustics, J. Ross Publishing, NY, USA 2007. 12. Werner W.; Solar Heating Systems for House; IEA 2003. 13. L.D.D. Harvey; A handbook on Low-Energy Buildings and District-Energy Systems, Earthscan, UK, 2006. 14. S. Medved; Gradjevinska Fizika, DUNP, 2014 15. B. Sorensen; Renewable energy conservation, transmission and storage; Elsevier, USA, 2007 16. B. Lenz, J. Schreiber, T. Stark; Sustainable building services, Detail Green Books; Germany, 2011 17. K. Daniels, R. E. Hammann; Energy Design for Tomorrow; Edition Axel Menges; Germany, 2008 18. Environmental impacts of wind-energy projects, The national academies press, Washington, D.C., 2007 19. John Twidell, Tony Weir; Renewable Energy Resources, Taylor & Francis, 2005 20. B. Sorensen,; Renewable Energy:Physics, Engineering, Environmental Impacts, Economics&Planning, Elsevier, 2010	UNSA	BA		2000	24350
	3,3	**Infrared thermometer (as Testo 845 or Fluke 572-2)**	UNIBL	BA		1000	
	3,3	**Mutifunctional instrument U value, CO2 indor, pressure, relative humidity, luxmeter (as TESTO 435-2)**	UNIBL	BA		4800	
	3,3	**Global Radiation Pyranometer (as Star pyranometer FL A628 S)** **Solar Panel (SOL5N 12V/1.5W)**	UNIBL	BA		1900	
	3,3	**Power Quality analyzer**	UNIBL	BA		6800	
	3,3	**Pinless moisture meter (as Flir MR 77) and moisture sensor (as Ahlborn FHA696MF)**	UNIBL	BA		1200	
	3,3	**Solar-Wind-Fuel cells energy trainer- KE-RE3002;** Designed for the study of renewable energies: solar energy, wind energy and hydrogen fuel cell systems.It includes electrolyser cell 5, RFC H2/O2/Air, PEMFC kit, gas storage, solar module, battery box, power supply, load (fan), load (car), cable, wind generator, decade resistor, multimeter.	UNIBL	BA		3000	
	3,3	**Hitachi StarBoard FX-DUo-88**; Designed for use in smaller classes and boardrooms, the StarBoard FX DUO-88 Interactive White Board allows up to two inputs for multi-touch control on a durable, electronic-free surface, and a 16:10 aspect ratio that provides more presentation space and better mirror screen dimensions of wide aspect PC and laptop display settings.	UNIBL	BA		5600	
	3,3	**Books for library**	UNIBL	BA		2000	26300
	3,3	**Clean energy trainer**	UME	ME		2000	
	3,3	**Interactive table**	UME	ME		950	
	3,3	**Video beam projector**	UME	ME		550	
	3,3	**PC computer** (10 pieces)	UME	ME		4500	
	3,3	**Notebooks** (14 pieces)	UME	ME		13120	
	3,3	**Software for energy consumption in buildings**	UME	ME		1000	
	3,3	**Different supplies**	UME	ME		1199,5	
	3,3	**Books for library**	UME	ME		400	23719,5
							151555,87