

## IMPRESS - WORKING PACKAGE 1

### REPORT

(February 2018)

#### T1.4 Technical assessment of available hardware and software

In order to define list of software and hardware for purpose of accreditation of new study modules and establishment of TESS center, technical assessment of available hardware and software has been completed. Results are presented in Table 1.

Table 1. Results of technical assessment of available hardware and software

#### ImprESS Project Hardware/Software recommendations

Com- pany	Software	Description	Price	Link
CERC Cam- bridge Environ- mental Research	<b>ADMS 5.2.2</b> ( <i>Atmospheric Dispersion Mod- elling System</i> )	Advanced dispersion modelling of emissions from ex- isting and proposed industrial installations	Permanent Research licence: € <b>3.000</b>	<a href="http://www.cerc.co.uk/environmental-software/prices.php">http://www.cerc.co.uk/en- vironmental-soft- ware/prices.ph p</a>
			Annual Research licence: € <b>1.200</b>	
	<b>ADMS-Roads</b>	Comprehensive tool for investigating air pollution problems due to networks of roads that may be in combination with industrial sites.	Permanent Research licence: € <b>3.000</b>	
			Annual Research licence: € <b>1.200</b>	



Consultants		<i>The above cost is inclusive of support for 1 year (use of helpdesk, upgrades, access to user area on the web, newsletters and attendance to the user group meeting in the UK). For permanent licence, if you wish to continue the annual support contract from year 2 onwards, the current cost is €900 p.a.</i>			<i>(Prices on the website are different)</i>
XVR Simulation	<b>XVR- Virtual Reality training software for safety and security</b>	XVR is a virtual reality training platform for education, training and assessment of incident commanders of operational level up to strategic level. There are three modules: XVR On Scene - for tactical and operational training in 3D-scenarios; XVR Resource Management - for training, educating and evaluating emergency logistics; XVR crisis Media - for training (social) media management during (virtual) incidents.	About € 8.000 to € 10.000 per year (licence for one user); Without hardware		<a href="http://www.xvrsim.com">http://www.xvrsim.com</a>
Atrisc	<b>a) Atrisc solution Labyrinth</b>	Immersive solution to develop specific modules about Human factor and risk of error (cognovit approach, emotional, ...) Integrated: - training of trainer (12 persons) in English - decision making and risk of error - key concepts - high reliability - use simulation for this type of training - immersive simulation Atrisc may provide the hardware with partners. It can be the same computer as other tools for simulation.	Licence: one shot, users no limited, no limitation of years  Solution (without hardware) + training = € 22.000 (with travel costs for trainer)	<b>Solution a) + b) = € 40.000</b>  <i>(Included one week of training with trainer)</i>	<a href="http://www.target-h2020.eu/">http://www.target-h2020.eu/</a>
Atrisc	<b>b) Tools from H2020 project Target; they will be available at the end of 2018</b>	The tools from H2020 project Target have a specific solution: to measure efficiency of interaction during an exercise.	Licence: Cost + hardware (tablet) Cost: €25.000 Integrated: one training of trainer (2 days) in English		



Inovadys	<b>The SécuRéVi platform</b>	It is based on the Global Safety Plan (GSP) integrated into a Geographic Information System (GIS). This crisis management system is interesting for exercise in tactical decision (safety and security, fire-fighting...)	About € <b>15.000</b> for licence with specific picture (by drone)	<a href="http://www.inovadys.com">http://www.inovadys.com</a>  <a href="https://www.think-mind.org/index.php?view=article&amp;articleid=content-2014-3-30-60048">https://www.think-mind.org/index.php?view=article&amp;articleid=content-2014-3-30-60048</a>
3D systems	<b>Geomagic Wrap</b>	It transforms 3D scan data and imported files into 3D models for immediate use downstream.	~ € <b>10.000</b>	<a href="https://www.3dsys.com/software#3d-scanning-software">https://www.3dsys.com/software#3d-scanning-software</a>
3D systems	<b>Geomagic Design X</b>	It is the most comprehensive reverse engineering software, combines history-based CAD with 3D scan data processing so user can create feature-based, editable solid models compatible with user's existing CAD software.	€ <b>20.000-27.000</b> , depending on the licencing type	<a href="https://www.3dsys.com/software#3d-scanning-software">https://www.3dsys.com/software#3d-scanning-software</a>
Ansys, Inc.	<b>ANSYS</b>	<b>ANSYS offers software for different research areas (3D design, Fluids, Structural analysis...)</b> <b>ANSYS Fluent, CFD, CFX, FENSAP-ICE, Forte</b> etc. are Computational Fluid Dynamics software tools for design and analysis. These tools can simulate fluid flows in a virtual environment.	~ € <b>50.000</b> commercial annual licence (per user) ~ € <b>8.000</b> academical annual licence (per user)	<a href="http://www.ansys.com/products/all-products">http://www.ansys.com/products/all-products</a>
Dassault systems Simulia	<b>Simulia Abaqus</b>	Abaqus is a software suite for finite element analysis and computer-aided engineering. It has different modules such as Abaqus: - CAE, -Standard -Explicit, -CFD, -Electromagnetic.	Annual academical licence ~ € <b>4.000</b>	<a href="https://www.3ds.com/products-services/simulia/products/abaqus/">https://www.3ds.com/products-services/simulia/products/abaqus/</a>
U.S. Geological	<b>MODFLOW</b>	MODFLOW is the modular hydrologic model. MODFLOW is considered an international standard for	- Non-commercial versions are free (for educational or research purposes)	<a href="https://water.usgs.gov/og">https://water.usgs.gov/og</a>

Survey - USGS		simulating and predicting groundwater conditions and groundwater/surface-water interactions. Professional versions: Argus ONE, <b>GMS – Groundwater Modeling System</b> , Groundwater Vistas, Leapfrog Hydro, Processing Modflow, Visual MODFLOW).	- Professional versions of MODFLOW are generally priced at a minimum of around \$1000 and typically range upward to \$7000 USD	<a href="http://w/mod-flow/MODFLOW.html">w/mod-flow/MODFLOW.html</a>
IBM <i>International Business Machines Corporation</i>	<b>IBM i2 Analyst's Notebook</b>	This is a visual analysis tool that helps to turn data into intelligence. The solution provides innovative features such as connected network visualizations, social network analysis, and geospatial or temporal views to help to uncover hidden connections and patterns in data. This insight can help to better identify and disrupt criminal, cyber and fraudulent threats.	<p><b>Starting at \$8,540.00 USD per (enterprise) user</b> (excluded any applicable taxes)</p> <ul style="list-style-type: none"> <li>-Licensing option available to share access with -multiple users (one user at a time)</li> <li>-IBM Passport Advantage discounts and other applicable agreements with IBM apply</li> <li>-Intended for users of public and private sector organizations working in larger groups</li> <li>-Potential lower price than Authorized User when multiple users per licence (e.g. 3:1)</li> <li>-Includes 12 months of no cost 24x7 support and access to new software features</li> </ul>	<a href="https://www.ibm.com/us-en/marketplace/analysts-notebook/purchase">https://www.ibm.com/us-en/marketplace/analysts-notebook/purchase</a>

3D handheld scanners				
Company	Hardware/Software	Description	Price	Link
CREAFORM	<b>Go!SCAN 20</b>	The easiest 3D scanning experience, generating fast and reliable measurements. These scanners can capture 3D data in full colour, providing very rich and detailed textures. They have application in Serious Gaming / Virtual Reality.	€22.615 + colour option € 1.500	<a href="https://www.goscan3d.com/en">https://www.goscan3d.com/en</a>
	<b>Go!SCAN 50</b>		€22.615 + colour option € 1.500	



	<b>HandySCAN 300</b>	The truly portable metrology-grade 3D scanners delivering highly accurate measurements.	€35.765	
	<b>HandySCAN 700</b>		€46.365	
		<p><i>Prices listed above include transport to the customer and training (2 days) at the customer's location.</i></p> <p><i>Listed products have integrated software – Vxelements.</i></p>		
ARTEC 3D	<b>Artec EVA</b>	The ideal 3D scanning solution for making quick and accurate 3D models of medium-sized objects.	€ 13.700	<a href="https://www.artec3d.com/shop">https://www.artec3d.com/shop</a>
	<b>Artec EVA Lite</b>	Entry level white light 3D scanner. Geometry tracking and capture only.	€ 6.700	
	<b>Artec Space Spider</b>	A metrological 3D solution, perfect for capturing small objects for CAD applications and more.	€ 19.700	
	<b>Space Spider + Eva</b>		€ 26.700	
	<b>Artec Leo</b>	The best Artec's 3D scanner, equipped with wireless technology and an inbuilt touch screen.	€ 22.700	
	<b>Leo + Space Spider</b>		€ 35.700	
		<p><i>Prices listed above are standard prices. Educational prices are in the separated table given below.</i></p> <p><i>Listed products have integrated software - Artec Studio.</i></p>		
ARTEC 3D	<b>Artec studio 12 professional</b>	Advanced 3D scanning, processing and editing software <b>for Artec scanners only.</b>	Yearly subscription - 1 licence €400,00 Yearly subscription - 3 licences €1.000,00 Lifetime - 1 licence €1.000,00 Lifetime - 3 licences €2.500,00	<a href="https://www.artec3d.com/shop#artec-software">https://www.artec3d.com/shop#artec-software</a>
	<b>Artec Studio 12 Ultimate</b>	Advanced 3D scanning, processing and editing software <b>for Artec scanners and third-party sensors.</b>	Yearly subscription - 1 licence €800,00 Yearly subscription - 3 licences €2.000,00	



Artec 3D Educational Package prices with Geomagic software solutions						Link
Scanners	Scanner prices*	+ Geomagic Design X	+ Geomagic Control X	+ Geomagic Wrap	+ Geomagic plugin for SOLIDWORKS	
Eva	12.330	17.715	16.650	14.895	14.226	<a href="https://www.artec3d.com/news/educational-packages-geomagic">https://www.artec3d.com/news/educational-packages-geomagic</a>  <a href="https://www.artec3d.com/news/discounts-on-3d-scanners-education-science">https://www.artec3d.com/news/discounts-on-3d-scanners-education-science</a>
Eva Lite	6.030	11.415	10.350	8.595	7.926	
Space Spider	17.730	23.115	22.050	20.295	19.626	
Eva + Space Spider	24.030	29.415	28.350	26.595	25.926	
Leo	20.430	25.815	24.750	22.995	22.326	
Leo + Space Spider	32.130	37.515	36.450	34.695	34.026	
<p><i>* Option without Geomagic software includes Artec Studio software: FREE pack of 20 licences with 2-year warranty at no extra charge and 2 years of free major software upgrades.</i></p> <p><i>Note: All prices are in <b>EUR</b>. The offer does not include delivery, training, installation or local taxes where applicable. Artec Studio licences provided with Educational Packages as a free pack cannot be resold/transferred to other users.</i></p>						