

PRESS RELEASE

The 5D Initiative enters into a process of more intensive cooperation with Autodesk, Bentley, CCT, RIB and Tekla in order to develop new BIM software solutions that fit needs of European contractors.

Based on the strategic discussions over the past 2 years, the 5D Initiative moves forward by taking pragmatic steps together with Autodesk Inc (Autodesk), Bentley Systems Incorporated (Bentley), Computers and Communication Technology International (CCT), RIB Software AG (RIB) and Tekla Corporation (Tekla), in order to reflect the practical needs of higher process integration in the whole life-cycle in construction.

Stuttgart, Germany. April 21, 2011 — The 5D Initiative, founded and working as an independent think tank and task force within the ENCORD Virtual Construction Platform, was established by Ballast Nedam, Royal BAM Group, Consolidated Contractors Group S.A.L. – Offshore (CCC), Max Bögl and Strabag. Today, 5D Initiative announced that collaboration with Autodesk, Bentley, CCT, RIB and Tekla is moving forward to incorporate pragmatic requirements for a 5Di solution, which is the amplification of BIM solutions for contractors to ensure higher process integration from very early design, engineering, fabrication and construction to operation & maintenance. The 5D Initiative was launched in 2008 with the goal of describing common requirements of the European construction industry for the development of new innovative tools by the hard and software industry. Since 2008, the 5D Initiative has had several discussions with Autodesk, Bentley, CCT, RIB and Tekla to recognize and analyze the requirements of the more advanced and fully-integrated 5D solutions. Based on the shared requirements from the 5D Initiative and the strategic discussions so far, Autodesk, Bentley, CCT, RIB, Tekla and the 5D Initiative have reached a common understanding about BIM for construction. This led to a plan for taking the existing cooperation to the next level with the goal of fulfilling needs of construction process integration in construction practice.

“We are looking forward to the outcome of this intensive and close collaboration with main construction software companies,” said Konstantinos Kessoudis, Chair of 5D Initiative. “We have taken into account the quality of BIM solutions that are available on the market and are being used in practice. As other industries have done before, the construction industry has started working closely with the software industry to gain software solutions that cover the 5D demands in an active and open cooperation with software vendors, especially Autodesk, Bentley, CCT, RIB and Tekla. We expect this to lead to 5Di solutions that are fully integrated, sustainable, seamless, and accelerate implementation in construction practice. As 5Di will cover the whole process of building life cycle we do appreciate the engagement of leading construction software companies to share the common idea of 5Di as the basis for collaboration. We are confident that this will be the beginning for a construction industry solution implementing all relevant processes and software solutions.”

“Working through 5Di, we have embraced 5D modeling and established a clear vision for how the construction industry can evolve and adopt a virtual construction process,” said Menno de Jonge, Director of Innovation and Strategic Information Manager, Ballast Nedam. “We share a common objective with the leading construction software vendors – to revolutionize the construction industry via 5D modeling, visualization and collaboration tools - and look forward to working together to define the requirements and develop the solutions that will make this vision a reality.”

“Autodesk’s mission is to deliver software and services that address the complete construction lifecycle,” said Mark Strassman, Vice President of Construction Solutions, “and our collaboration with 5Di over the past 2 years has provided us with a unique opportunity to understand the process and technology requirements from some of the most innovative construction companies in Europe to help us meet that goal. What we’ve seen with this group of construction industry veterans is a thoughtful and deep understanding about the potential of a Building Information Modeling process to drive a more integrated, manufacturing-like approach to construction. Participating in the 5D Initiative provides us with insight into how model-based technology is being adopted, and it provides the companies participating in the 5Di to directly influence our product development and foster the adoption of BIM within the construction industry in Europe and around the world. Working with the 5Di we have established a clear vision for how the construction industry can evolve and adopt a virtual construction process and enable improvements in all aspects of the building lifecycle.”

“As a leading technology provider for the design, construction, and operations of infrastructure ranging from utilities, roads, bridges, and rail systems to power plants, and buildings, Bentley is uniquely positioned to contribute our project experience and technology expertise in support of this great initiative. Working with 5D Initiative team members is an enjoyable, enlightening, and mutually beneficial experience,” said Stephen Jolley, Bentley Systems Director of Construction Product Management. “The combined efforts of the 5D Initiative team members to produce a 5D requirements definition and publish use cases that support it will help drive the development of integrated and comprehensive construction information technologies and methodologies that can be realized. Adoption of these collaborative integrated working practices will have a positive economic impact throughout the European construction market.” Also Andy Glyde, Bentley’s Business Development Manager, said, “Bentley is fully committed to supporting collaborative integrated project workflows and the software interoperability that makes this possible. The work being done by the 5Di Group is in strong alignment with Bentley’s vision for open data and information exchange, and we will continue to work very closely with the other members to help the 5D Initiative reach its goal.”

“CCT was established to create 3D based applications, it has developed a 5D framework which includes 3D tools and development platform (C3D) integrated with workflow engine and document management system working as a temporal object oriented storage for that framework; Thus our motto “had it been easy, somebody else would have done it.” said Zuhair Haddad CCT’s Chairman. “The 5Di vision creates a perfect match with CCT’s development strategy. We believe that this harmony coupled

with CCT's will and stamina to develop 5D based software will lead to the next generation of construction solutions developed by the EPC contractor for the EPC industry."

"As the sole software company for fully-integrated 5D solutions for digital construction around the globe, we highly appreciate and consider it a part of our business strategy to work with the 5D Initiative. We are pleased to support their future goals," said Dr. Hans-Peter Sanio, CTO of RIB. "Our close collaboration with the 5D Initiative's members, which belong to the leading construction companies throughout Europe, helps us as a software vendor a lot, to fulfill the market's current requirements with our innovative 5D software iTWO."

"At Tekla we know how fragmented and complex construction projects can be," said Tekla Executive Vice President Risto Rätty. "In addition to providing for the steel and concrete industries, it is very much in our focus to offer solutions for contractors, too. This initiative came from their direction, and we are doing our best to answer to their needs and beyond. More and more organized BIM software for e.g. site management and the most devoted technical support in the industry will enable collaboration across organizations to make great deliverables for building and construction."

For this pragmatic cooperation with Autodesk, Bentley, CCT, RIB and Tekla, the 5D Initiative will develop more detailed and concrete requirements. The 5D Initiative expects that updating and sharing these requirements will facilitate the development of new 5D solutions by the software providers that reflect the needs of European contractors. The 5D Initiative is currently working on updating the following UseCases to set focus on major parts of 5Di requirements:

- Building Process Integration: Systems Engineering and BIM
- Change Management
- Progress Collection, Monitoring and Control
- Design to Fabrication
- Model-based Estimation: QTO processes

The goal is to amplify successively the detailed requirement covering the whole map of 5Di as shown on <http://www.5d-initiative.eu>.

About us

5D Initiative

The 5D Initiative is an independent think tank and task force within the ENCORD Virtual Construction Platform and was initiated in 2008 by the construction companies Ballast Nedam, Royal BAM Group, Consolidated Contractors Group S.A.L. – Offshore (CCC), Max Bögl and Strabag with the goal of describing common requirements of the European construction industry for the development of new innovative tools by the hard and software industry. For additional information about 5D Initiative, visit <http://www.5d-initiative.eu>. For additional information about ENCORD, visit <http://www.encord.org>.

Autodesk, Inc.

About Autodesk BIM

Building Information Modeling (BIM) is an intelligent model-based process that provides insight for creating and managing building and infrastructure projects faster, more economically, and with less environmental impact. Autodesk BIM solutions for the building lifecycle, from design to construction and operations & maintenance, are based on intelligent models created with Autodesk Revit software, including solutions for architecture, structural engineering, and mechanical, electrical, and plumbing (MEP) engineering. Autodesk BIM solutions for the infrastructure lifecycle are based on intelligent models created with AutoCAD Civil 3D software for civil engineering design and AutoCAD Map 3D software for infrastructure planning. Helping to expand the benefits of BIM is a powerful set of complementary solutions, including Autodesk Navisworks and Autodesk 3ds Max Design to visualize and simulate projects virtually, and AutoCAD software for documentation and professional drafting. Autodesk Vault Collaboration AEC helps project teams manage and track digital models; secure, organize, and access project documentation; and facilitate team collaboration.

Bentley Systems, Incorporated

Bentley is the global leader dedicated to providing architects, engineers, geospatial professionals, constructors, and owner-operators with comprehensive software solutions for sustaining infrastructure. Bentley's mission is to empower its users to leverage *information modeling* through *integrated projects* for high-performing *intelligent infrastructure*. Its solutions encompass the MicroStation platform for infrastructure design and modeling, the ProjectWise platform for infrastructure project team collaboration and work sharing, and the AssetWise platform for infrastructure asset operations – all supporting a broad portfolio of interoperable applications and complemented by worldwide professional services. Founded in 1984, Bentley has grown to nearly 3,000 colleagues in more than 45 countries and \$500 million in annual revenues. Since 2001, the company has invested more than \$1 billion in research, development, and acquisitions.

Computers and Communication Technology International (CCT)

CCT is Solution provider providing construction applications for CCC, a major player in the construction market carrying more than 55 years of experience in the construction business and endorsed by a practical understanding of the Engineering/Construction Market needs reflecting the contractors concerns and processes. CCT's mission is to empower the construction worker by delivering user friendly, visually oriented applications (Vioneering) to all, in the engineering office as well as the construction site.

RIB Software AG

With over 12,000 customers, the RIB Group is one of the leading providers of technical ERP software solutions for the construction industry. Founded in 1961 and headquartered in Stuttgart, RIB has become a market leader in Germany. The world's largest construction companies, the public sector, architectural offices and engineering companies as well as key accounts in the process industries all around the globe use RIB's software systems to optimize their engineering and construction processes. RIB has its own sales and service offices in EMEA, North America and APAC. Further details at: www.rib-software.com.

Tekla Corporation

With its software, Tekla Corporation drives the evolution of digital information models and provides thus more and more competitive advantage to the construction and infrastructure industries. Tekla has customers in nearly 100 countries, offices in 15 countries, and a worldwide partner network. The company was established in 1966. With an ambition to multiply its customers' potential to think and achieve big, Tekla provides an accurate, detailed, and data-rich 3D BIM (Building Information Modeling) software environment that can be shared by contractors, structural engineers, steel detailers and fabricators, as well as concrete detailers and manufacturers. The highly detailed as-built structural models created, combined and distributed with Tekla BIM software enable the highest level of constructability and production control. Centralizing building information into the model allows for more collaborative and integrated project management and delivery. This translates into increased productivity and elimination of waste, thus making construction and buildings more sustainable. More information at www.tekla.com and www.teklastructures.com

Contacts

5D Initiative

Konstantinos Kessoudis (Chairman, +49-711-7883-345, konstantinos.kessoudis@zueblin.de)

Evrydiki D. Fekka (General Secretary, +30-210-6182964, efekka@ccc.gr)

Autodesk AEC

Timothy Collins Douglas (Senior Industry Manager for Construction, +1-415-3560-782, timothy.douglas@autodesk.com)

Bentley Systems

Andy Glyde (Business Development Manager, +44-750-0082-037, andy.glyde@bentley.com)

CCT

Zuhair Haddad (Chairman, +30- 210-6182-000, zuhair@ccc.gr)

RIB Software AG

Hans Peter Sanio (Chief Technical Officer, +49-711-7873-271, hans-peter.sanio@rib-software.com)

Tekla Corporation

Ragnar Wessman (Chief Product Strategist, +35-830-661-10, ragnar.wessman@tekla.com)