

References of the STATE-OF-THE-ART overview

- AberdeenGroup. (2007). *Engineering Change Management 2.0: Better Business Decisions from Intelligent Change Management*.
- Accenture. (2014). *Circular Advantage: Innovative business models and technologies to create value in a world without limits to growth*. Retrieved from <http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-Circular-Advantage-Innovative-Business-Models-Technologies-Value-Growth.pdf>
- AECOM, & Tang, T. (2012). *Sustainable Buildings: Smart, Green and People-Friendly*. Retrieved from [http://www.aecom.com/deployedfiles/Internet/Capabilities/Architecture/_Events/AECOM_Sustainable Buildings_by Thomas Tang2.pdf](http://www.aecom.com/deployedfiles/Internet/Capabilities/Architecture/_Events/AECOM_Sustainable_Buildings_by Thomas Tang2.pdf)
- AECOM. (2013). *Sustainability Report: Managing complexity, building better lives*. Retrieved from <http://www.aecom.com/about-aecom/sustainability/>
- AECOM. (2016). *Sustainability Report: The things we value*.
- AMEC. (2014). *Sustainability Performance Report 2014 Resilient World*.
- AMEC. (2015). *Sustainability: Materiality*.
- AMEC. (2015). *Sustainability: Our approach to sustainability*.
- Annex31. (2004). *Energy-Related Environmental Impact of Buildings: Environmental Framework*. Retrieved from http://www.iisbe.org/annex31/pdf/B_environmental.pdf
- Annex31. (2004). *Energy-Related Environmental Impact of Buildings: Life Cycle Assessment*.
- Antink, R., Garrigan, C., Bonetti, M., & Westaway, R. (2014). *Greening the Building Supply Chain*. Retrieved from http://www.unep.org/sbci/pdfs/greening_the_supply_chain_report.pdf
- Anton, L. A., & Diaz, J. (2014). Integration of life cycle assessment in a BIM environment. *Procedia Engineering*, 85, 26–32. <http://doi.org/10.1016/j.proeng.2014.10.525>
- ARCADIS. (2015). *Sustainability Report: Improving quality of life*.
- Arup. (2015). SPeAR - Sustainable Project Appraisal Routine. Retrieved from <http://www.arup.com/Projects/SPeAR.aspx>
- Arup. (2016). *The Circular Economy in the Built Environment*.
- Arup. (n.d.). *Life Cycle Assessment (LCA) and Life Cycle Cost (LCC) Tool*.
- Arup. (n.d.). *Sustainability in Practice*.
- Autodesk. (2011). *Building Information Modelling for Sustainable Design: Conceptual building performance analysis overview*.
- Autodesk. (2011). *Realizing the Benefits of BIM*.
- Autodesk. (2015). *Sustainability in action: from epic challenges to integrated solutions*.
- Azhar, S., Brown, J., & Farooqui, R. (2008). *BIM-based Sustainability Analysis: An Evaluation of Building Performance Analysis Software*.
- Azhar, S., Carlton, W. A., Olsen, D., & Ahmad, I. (2011). Building information modeling for sustainable design and LEED rating analysis. *Automation in Construction*, 20, 217–224. <http://doi.org/10.1016/j.autcon.2010.09.019>
- Babič, N. C., Podbreznik, P., & Rebolj, D. (2010). Integrating resource production and construction using BIM. *Automation in Construction*, 19, 539–543. <http://doi.org/10.1016/j.autcon.2009.11.005>
- Basbagill, J., Flager, F., Lepech, M., & Fischer, M. (2013). Application of life-cycle assessment to early stage building design for reduced embodied environmental impacts. *Building and Environment*, 60, 81–92. <http://doi.org/10.1016/j.buildenv.2012.11.009>
- Bayer, C., Gamble, M., Gentry, R., & Joshi, S. (2010). *AIA Guide to Building Life Cycle Assessment in Practice*. Retrieved from <http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aia082942.pdf>
- BCG, Gerbert, P., Castagnino, S., Rothballer, C., Renz, A., & Filitz, R. (2016). *Digital in Engineering and Construction: The transformative Power of Building Information Modeling*.
- Becerik-Gerber, B., & Kensek, K. (2010). Building information modeling in architecture, engineering, and construction: Emerging research directions and trends. *Journal of Professional Issues in Engineering Education and Practice*, 136(3), 139–147. Retrieved from [http://ascelibrary.org/doi/10.1061/\(ASCE\)EI.1943-5541.0000023](http://ascelibrary.org/doi/10.1061/(ASCE)EI.1943-5541.0000023)

- Biswas, T., Wang, T.-H., & Krishnamurti, R. (2013). From design to pre-certification using Building Information Modeling. *Journal of Green Building*, 8(1), 151–176. <http://doi.org/10.3992/jgb.8.1.151>
- BLP, & Miller, T. (2011). *Low Carbon Design & Decision Tool*.
- Boddy, S., Rezgui, Y., Cooper, G., & Wetherill, M. (2007). Computer integrated construction: A review and proposals for future direction. *Advances in Engineering Software*, 38, 677–687. <http://doi.org/10.1016/j.advengsoft.2006.10.007>
- Bond, C., & O'Byrne, D. J. (2014). Challenges and conceptions of globalization: An investigation into models of global change and their relationship with business practice. *Cross Cultural Management*, 21(1), 23–38.
- Browning, T. R. (2015). Design Structure Matrix Extensions and Innovations: A Survey and New Opportunities. In *IEEE International Engineering Management Conference* (pp. 1–25). <http://doi.org/10.1109/TEM.2015.2491283>
- BusinessRoundtable. (2015). *Create - Grow - Sustain: Leading by example*.
- Carra, G., & Magdani, N. (2017). *Circular Business Models for the Built Environment*. Retrieved from <http://www.duurzaam-ondernemen.nl/circular-business-models-for-the-built-environment-research-report-by-arup-bam/>
- Carson, T., & Baker, D. L. (2006). *The AEC Workflow*.
- Cassidy, R. (2005). *Life Cycle Assessment and Sustainability. Building Design & Construction*.
- Cerovšek, T., Zupančič, T., & Kilar, V. (2010). Framework for model-based competency management for design in physical and virtual worlds. *Journal of Information Technology in Construction*, 15, 1–22. Retrieved from http://itcon.org/data/works/att/2010_1.content.06545.pdf
- CH2M. (2015). *Sustainability and Corporate Citizenship Report*. Retrieved from http://sccr.ch2m.com/?_ga=1.42506789.1257332098.1447433785#.VkYcnOLEPfY
- Chinowsky, P. S., & Byrd, M. A. (2001). Strategic management in design firms. *Journal of Professional Issues in Engineering Education and Practice*, 127(1), 32–40.
- Chinowsky, P. S., & Carrillo, P. M. (n.d.). *A strategic argument for knowledge management*.
- Cidik, M. S., Boyd, D., Thurairajah, N., & Hill, S. (2014). BIM and Conceptual Design Sustainability Analysis: An Information Categorization Framework. In *50th ASC Annual International Conference Proceedings* (pp. 1–8).
- Davis, K. A. (2008). Assessing individuals' resistance prior to it implementation in AEC industry. In *CIB W78 International Conference in Information Technology in Construction* (pp. 1–10). Santiago, Chile.
- Deamer, P., & Bernstein, P. (2010). *Building (in) the Future: Recasting Labour in Architecture*. New York: Princeton Architectural Press.
- Ellen MacArthur Foundation. (2015). *Growth within: a circular economy vision for a competitive Europe*.
- Ellen MacArthur Foundation. (2016). *Intelligent assets: unlocking the Circular Economy potential*. Retrieved from http://www.ellenmacarthurfoundation.org/assets/downloads/publications/EllenMacArthurFoundation_Intelligent_Assets_080216.pdf
- Faludi, J. (2015). A Sustainable Design Method Acting as an Innovation Tool. *Smart Innovation, Systems and Technologies*, 35, 201–212. <http://doi.org/10.1007/978-81-322-2229-3>
- Farmer, G. (2013). Re-contextualising design: three ways of practising sustainable architecture. *Architectural Research Quarterly*, 17(2), 106–119. <http://doi.org/http://dx.doi.org/10.1017/S1359135513000468>
- Fischer, J., & Guy, S. (2009). Re-interpreting Regulations: Architects as Intermediaries for Low-carbon Buildings. *Urban Studies*, 46(12), 2577–2594. <http://doi.org/10.1177/0042098009344228>
- Fluor. (2014). *Building Sustainable Solutions*.
- Forsberg, A., & von Malmberg, F. (2004). Tools for environmental assessment of the built environment. *Building and Environment*, 39, 223–228. <http://doi.org/10.1016/j.buildenv.2003.09.004>
- Foster&Partners. (2005). *Sustainability Design Guide*.
- Fox, R. N. (n.d.). *Engineering, Procurement and Construction (EPC) Projects: Opportunities for Improvements through automation*.
- Gantner, J., Saunders, T., & Lasvaux, S. (2012). *EeBGuide - Requirements for building LCA tool designer. EeBGuide, Operational guidance for Life Cycle Assessment studies of the Energy Efficient Buildings Initiative*.

- Haapio, A., & Viitaniemi, P. (2008). A critical review of building environmental assessment tools. *Environmental Impact Assessment Review*, 28, 469–482. <http://doi.org/10.1016/j.eiar.2008.01.002>
- Häkkinen, T., & Belloni, K. (2011). Barriers and drivers for sustainable building. *Building Research & Information*, 39(3), 239–255. <http://doi.org/10.1007/s13398-014-0173-7.2>
- Han, G., & Srebric, J. (n.d.). *Life-Cycle Assessment Tools for Building Analysis*. The Pennsylvania Housing Research Center. Retrieved from [http://www.engr.psu.edu/phrc/Publications/RB0511-Life-cycle assessment tools for bldg analysis .pdf](http://www.engr.psu.edu/phrc/Publications/RB0511-Life-cycle%20assessment%20tools%20for%20bldg%20analysis.pdf)
- Harris, J. (2010). *Integration of BIM and Business Strategy*. McCormick School of Engineering and Applied Science. Retrieved from http://www.wbdg.org/pdfs/integratebim_harris.pdf
- Hartmann, A., Dewulf, G., & Reymen, I. (2006). *Understanding the innovation adoption process of construction clients*. *Industry and technology diffusion*.
- Hedstrom, G. S. (2015). Navigating the Sustainability Transformation. In D. Notes (Ed.), *The Conference Board, Trusted Insights for Business Worldwide* (pp. 1–16).
- Hitchcock, D., Schenk, R., & Gordy, T. (2011). *Directory of Sustainability Life Cycle Assessment Tools*. *International Society of Sustainability Professionals*. Retrieved from [https://www.sustainabilityprofessionals.org/system/files/ISSP_Life_Cycle_Assessment_Tools_Directory .pdf](https://www.sustainabilityprofessionals.org/system/files/ISSP_Life_Cycle_Assessment_Tools_Directory.pdf)
- Hoffman, R., & Lintern, G. (2006). Eliciting and Representing the Knowledge of Experts. In K. A. Ericsson, N. Charness, P. Feltovich, & R. Hoffman (Eds.), *Cambridge handbook of expertise and expert performance* (pp. 203–222). New York: Cambridge University Press. <http://doi.org/10.1017/CBO9780511816796.012>
- Jacobs. (2015). *Sustainability Report*.
- Jalaei, F., & Jrade, A. (2015). Integrating building information modeling (BIM) and LEED system at the conceptual design stage of sustainable buildings. *Sustainable Cities and Society*, 18, 95–107. <http://doi.org/10.1016/j.scs.2015.06.007>
- Kaatz, E., Root, D. S., Bowen, P. A., & Hill, R. C. (2006). Advancing key outcomes of sustainability building assessment. *Building Research & Information*, 34(4), 308–320. <http://doi.org/10.1080/09613210600724608>
- Khasreen, M. M., Banfill, P. F. G., & Menzies, G. F. (2009). Life-cycle assessment and the environmental impact of buildings: A review. *Sustainability*, 1, 674–701. <http://doi.org/10.3390/su1030674>
- Kilinc, N., Basak, G., & Yitmen, I. (2015). The changing role of the client in driving innovation for design-build projects: stakeholders' perspective. *Procedia Economics and Finance*, 21, 279–287. [http://doi.org/10.1016/S2212-5671\(15\)00178-1](http://doi.org/10.1016/S2212-5671(15)00178-1)
- Koppinen, T., & Morrin, N. (n.d.). *Green BIM Innovation at Skanska*.
- Kovacic, I. (2016). BIM for Life Cycle Assessment - A Case Study: Redensification. In *WBC16 Understanding impacts and functioning of different solutions* (pp. 1–16).
- Lee, S., Tae, S., Roh, S., & Kim, T. (2015). Green Template for Life Cycle Assessment of Buildings Based on Building Information Modeling: Focus on Embodied Environmental Impact. *Sustainability*, 7, 16498–16512. <http://doi.org/10.3390/su71215830>
- Lehtinen, H., Saarentaus, A., Rouhiainen, J., Pitts, M., & Azapagic, A. (2011). *A Review of LCA Methods and Tools and their Suitability for SMEs*.
- Levring, A., & Nielsen, D. (2011). *Schematic Strategies and Workflows for Sustainable Design Development*.
- Liu, S., Meng, X., & Tam, C. (2015). Building information modeling based building design optimization for sustainability. *Energy and Buildings*, 105, 139–153. <http://doi.org/10.1016/j.enbuild.2015.06.037>
- McKinsey. (2014). *Sustainability's strategic worth: global survey results*. Retrieved from <http://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/sustainabilitys-strategic-worth-mckinsey-global-survey-results> \n<http://goo.gl/4JVBMQ>
- Mendler, S., Odell, W., & Lazarus, M. A. (2006). *The HOK guidebook to sustainable design*. New Jersey: Wiley.
- Mills, J., Platts, K., & Bourne, M. (2003). Competence and resource architectures. *International Journal of Operations & Production Management*, 23(9), 977–994. <http://doi.org/10.1108/01443570310491738>
- Mokhtar, A., Bédard, C., & Fazio, P. (1998). Information model for managing design changes in a collaborative environment. *Journal of Computing in Civil Engineering*, 12(2), 82–92. [http://doi.org/10.1061/\(ASCE\)0887-3801\(1998\)12:2\(82\)](http://doi.org/10.1061/(ASCE)0887-3801(1998)12:2(82))

- MottMacDonald. (2016). Mott MacDonald launches the first carbon calculator for BIM design.
- Nguyen, T. H., Shehab, T., & Gao, Z. (2010). Evaluating Sustainability of Architectural Designs Using Building Information Modeling. *The Open Construction and Building Technology Journal*, 4, 1–8. <http://doi.org/10.2174/1874836801004010001>
- Norsa, A. (2005). *La gestione del costruire: Tra progetto, processo e contratto*. Milano: FrancoAngeli.
- Ortiz, O., Castells, F., & Sonnemann, G. (2009). Sustainability in the construction industry: A review of recent developments based on LCA. *Construction and Building Materials*, 23, 28–39. <http://doi.org/10.1016/j.conbuildmat.2007.11.012>
- Pan, W., & Ning, Y. (2015). The dialectics of sustainable building. *Habitat International*, 48, 55–64. <http://doi.org/10.1016/j.habitatint.2015.03.004>
- Peuportier, B., & Putzeys, K. (2005). *PRESCO - Inter-Comparison and Benchmarking of LCA-Based Environmental Assessment and Design Tools*.
- Peuportier, B., Scarpellini, S., Glaumann, M., Malmqvist, T., Krigsvol, G., Wetzel, C., ... Stoykova, E. (n.d.). *ENSLIC_BUILDING: State of the art report and Collection of published material*.
- Rajendran, P., Wee, S. T., & Chen, G. K. (2012). Application of BIM for managing sustainable construction. In *International Conference of Technology Management, Business and Entrepreneurship* (pp. 305–310). Melaka, Malaysia. Retrieved from <http://eprints.uthm.edu.my/3451/>
- Reijnders, L., & Van Roekel, A. (1999). Comprehensiveness and adequacy of tools for the environmental improvement of buildings. *Journal of Cleaner Production*, 7, 221–225. [http://doi.org/10.1016/S0959-6526\(99\)00080-3](http://doi.org/10.1016/S0959-6526(99)00080-3)
- Reinhardt, J., Bedrick, J., Ikerd, W., Merrifield, D., Vandezande, J., Cichonski, W., ... Russell, D. (2013). *Level of Development Specification: for Building Information Models*. BIM Forum. Retrieved from <http://bimforum.org/wp-content/uploads/2013/08/2013-LOD-Specification.pdf>
- Renz, A., Solas, M. Z., WEF, & BCG. (2016). *Shaping the Future of Construction. A Breakthrough in Mindset and Technology*.
- Rezgui, Y., Boddy, S., Wetherill, M., & Cooper, G. (2011). Past, present and future of information and knowledge sharing in the construction industry: Towards semantic service-based e-construction? *CAD Computer Aided Design*, 43, 502–515. <http://doi.org/10.1016/j.cad.2009.06.005>
- Rezgui, Y., Hopfe, C. J., & Vorakulpipat, C. (2010). Generations of knowledge management in the architecture, engineering and construction industry: An evolutionary perspective. *Advanced Engineering Informatics*, 24, 219–228. <http://doi.org/10.1016/j.aei.2009.12.001>
- Riese, M. (2012). Technology-augmented changes in the design and delivery of the built environment. *Communications in Computer and Information Science*, 242, 49–69. http://doi.org/10.1007/978-3-642-29758-8_4
- RobecoSAM. (2015). *Measuring Intangibles: RobecoSAM's corporate sustainability assessment methodology*.
- RobecoSAM. (2015). *The sustainability yearbook 2015*.
- Robichaud, L. B., & Anantatmula, V. S. (2011). Greening project management practices for sustainable construction. *Journal of Management in Engineering*, 27(1), 48–57.
- Sakhare, K. N., Dabade, B. M., & Kadu, A. (2014). PLM: Change management Process with custom workflow template. *International Journal of Innovative Research in Science, Engineering and Technology*, 3(3), 2677–2680.
- Shaw, I., & Ozaki, R. (2016). Emergent Practices of an Environmental Standard. *Science, Technology & Human Values*, 41(2), 219–242. <http://doi.org/10.1177/0162243915589765>
- Shen, W., Hao, Q., Mak, H., Neelamkavil, J., Xie, H., Dickinson, J., ... Xue, H. (2010). Systems integration and collaboration in architecture, engineering, construction, and facilities management: A review. *Advanced Engineering Informatics*, 24, 196–207. <http://doi.org/10.1016/j.aei.2009.09.001>
- Sinopoli, N. (1997). *La tecnologia invisibile*. Milano: Franco Angeli Editore.
- Smollan, R. K. (2011). The multi-dimensional nature of resistance to change. *Journal of Management & Organization*, 17, 828–849. <http://doi.org/10.5172/jmo.2011.828>
- SOM. (2013). New tool measures emissions from Buildings.
- SOM. (2013). *Timber Tower Research Project*.
- SOM. (2014). *Sustainable engineering*.

- Štefaňák, P. (2011). Sustainability as a Tool for Increasing Competitiveness. *Studia Commercialia Bratislavensia*, 4(15), 469–476. <http://doi.org/10.2478/v10151-011-0010-3>
- Succar, B., & Kassem, M. (2015). Macro-BIM adoption: Conceptual structures. *Automation in Construction*, 57, 64–79. <http://doi.org/10.1016/j.autcon.2015.04.018>
- Susman, G., Jansen, K., Judd, M., Steven, B., & Stites, J. (2006). *Innovation and Change Management in Small and Medium-Sized Manufacturing Companies*.
- Tiwari, S., & Howard, H. C. (1994). Distributed AEC Databases for Collaborative Design. *Engineering with Computers*, 10, 140–154.
- Weippert, A., & Kajewski, S. L. (2004). *AEC industry culture: A need for change*. CIB World Building Congress 2004: Building for the Future. Retrieved from <http://eprints.qut.edu.au/4052/1/4052.pdf>
- Witthoeft, S., Kosta, I., WEF, & BCG. (2017). *Shaping the Future of Construction. Inspiring innovators redefine the industry*.
- Wong, J. K. W., & Zhou, J. (2015). Enhancing environmental sustainability over building life cycles through green BIM: A review. *Automation in Construction*, 57, 156–165. <http://doi.org/10.1016/j.autcon.2015.06.003>
- WorleyParsons. (2015). *Annual Report 2015*.
- WSP-Parsons Brinckerhoff. (2014). IRIS for sustainability.
- WSP-Parsons Brinckerhoff. (2014). *Sustainability Report*. Retrieved from <http://www.ball.com/sustainability/>
- Wu, W., & Issa, R. R. A. (2015). BIM Execution Planning in Green Building Projects: LEED as a Use Case. *Journal of Management in Engineering*, 31(1), 1–18. [http://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000314](http://doi.org/10.1061/(ASCE)ME.1943-5479.0000314).
- Yu, A. T. W., & Chan, E. H. W. (n.d.). *Requirements Management in the Architecture, Engineering and Construction (AEC) Industry: The Way Forward*. Construction.
- Zabalza Bribián, I., Aranda Usón, A., & Scarpellini, S. (2009). Life cycle assessment in buildings: State-of-the-art and simplified LCA methodology as a complement for building certification. *Building and Environment*, 44, 2510–2520. <http://doi.org/10.1016/j.buildenv.2009.05.001>
- Zhai, Z. J., & McNeill, J. S. (2014). Roles of building simulation tools in sustainable building design. *Building Simulation*, 7, 107–109. <http://doi.org/10.1007/s12273-013-0169-9>
- Zhang, P., Ma, X., & Zhong, J. (2013). The BIM in green architectural design software investigation. In *2013 Third International Conference on Instrumentation and Measurement, Computer, Communication and Control* (pp. 830–833). <http://doi.org/10.1109/IMCCC.2013.185>