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## The evolution of building information modeling

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Building Information Modeling is now established as one of the most significant changes in the Construction Industry since the advent of computer aided design. Little, however, has been published about its origins, the underlying data structures, the first uses or users or its influences on today's systems. This paper describes these first BIM systems. It presents original documentation from 1984 (now archived in the V&A Museum, London) that describe these systems as BIM. It uses a single model to fully co-ordinate graphical and non-graphical information of all objects within the building and intelligent components, able to design and modify themselves depending upon the surrounding conditions in the model. The first uses of BIM in engineering, architecture, building services, infrastructure, town planning, construction management and retail are presented. Included are screenshots, construction drawings, videos and images from projects such as Royal Albert Hall refurbishment, the Australian National Tennis Centre, the Heathrow Express tunnel, the British Library and others. Shared models, globally distributed projects, internally solved networks; live sensor monitoring and live operating models are all illustrated. The direct influence of these early systems on Revit, Destini and Archicad are shown with evidence of development licenses and source code tracking together statements by Graphisoft.

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