Future manufacturing systems need to be more flexible, to embrace tougher and constantly changing market demands. They also need to make better use of plant data, ideally utilizing all data from the entire plant. Low-level data should be refined to real-time information for decision making, to facilitate competitiveness through informed and timely decisions. The Line Information System Architecture, LISA, is designed to enable flexible factory integration and data utilization. In LISA, international standards and established off-the-shelf technologies have been combined with the main objective to be industrially applicable. LISA is an event-driven architecture with a prototype-oriented information model and formalized transformation services. It features loose coupling, flexibility, and ease of retrofitting legacy devices. The architecture has been evaluated on both real industrial data and industrial demonstrators and is also being installed at a large automotive company.