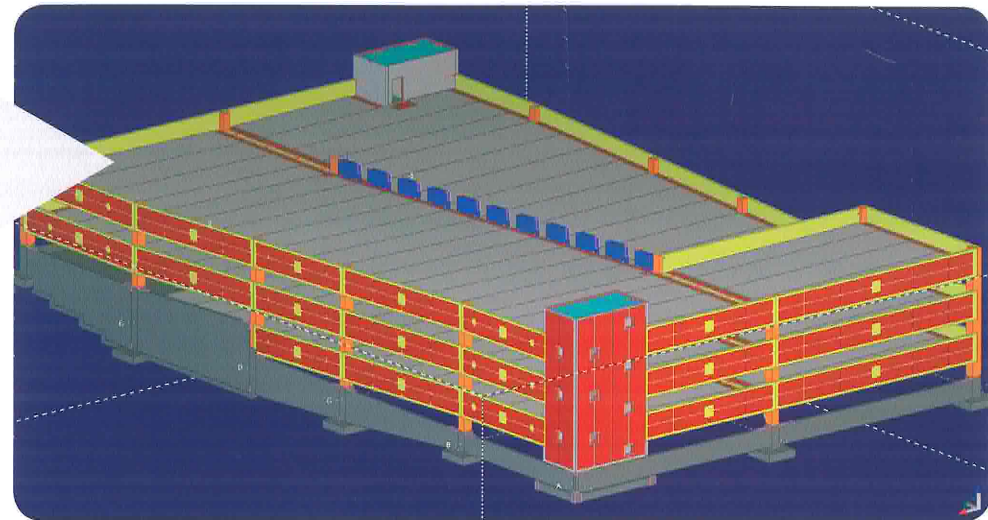




TEKLA® Structures

TEKLA STRUCTURES – INTELLIGENT 3D MODELING

PRECAST CONCRETE



The North American localization helpdesk for Tekla Structures is housed in LEAP Software headquarters. Orndorff asserts, "LEAP is precast savvy. Their knowledge of Tekla Structures is vast and customers receive reliable support. Users have access to assistance ranging from initial training to upskilling. And the webcasts have proven to be a beneficial training tool. Those who take advantage of this resource will profit most."

ation of the PCSC. Orndorff cannot overemphasize the role of TPUG. "Its focus is on producer and consultant technical issues as well as to sustain development on Tekla Structures fundamental 3D capabilities. TPUG is an excellent vehicle to launch Tekla Structures into a wider market. The key to its ongoing success lies in building a solid foundation for the future."

And that is exactly what Tekla has done with Tekla Structures software.

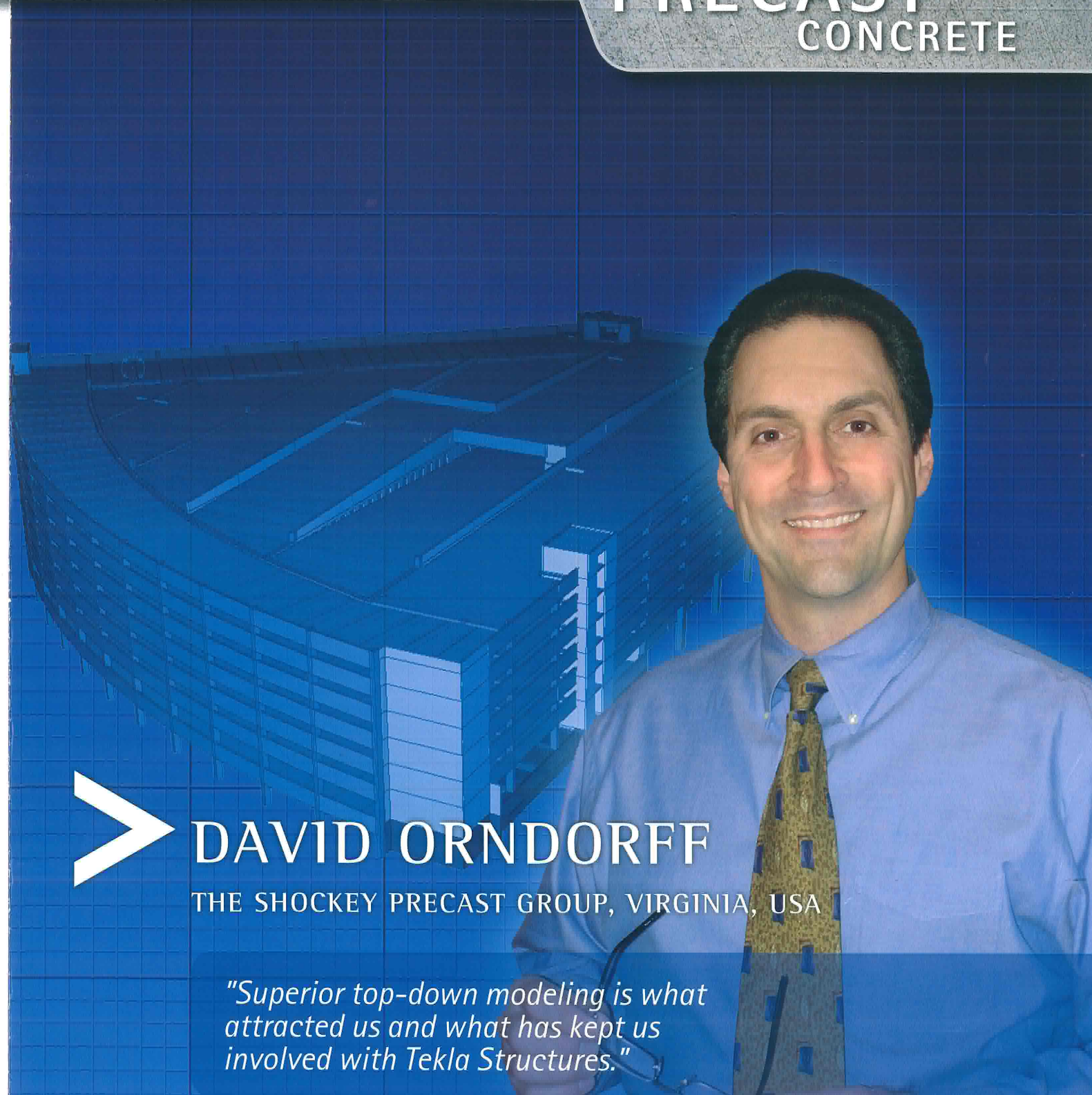
TOTAL COMMITMENT

> The commercial release of the software substantially met PCSC specification. Orndorff states "Tekla was completely responsive to the needs of the precast industry. Tekla asked what the industry was looking for and delivered software accordingly. Tekla continues to be market-focused and responsive to both product development and maintenance."

Tekla Precast Users Group (TPUG) was created as a continu-

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DAVID ORNDORFF

THE SHOCKEY PRECAST GROUP, VIRGINIA, USA

"Superior top-down modeling is what attracted us and what has kept us involved with Tekla Structures."



TEKLA Structures

THE FUTURE OF PRECAST CONCRETE DETAILING

> Tekla Corporation has been providing industry-leading software to the steel, concrete and structural detailing industry for over 40 years. And their commitment towards long-term product development has made Tekla the market-leader in its customer segments.

Tekla initially penetrated the steel detailing market with Tekla Xsteel software, and is currently determined to increase the competitiveness of the concrete sector with its innovative Tekla Structures solution.

ALL IN ONE MODEL

> Tekla Structures is the first real parametric 3D modeling software for the concrete industry. The integrated application contains all the reinforcements and information required to create and manage complete 3D building models regardless of material or structural complexity. The same model can be utilized for producing analysis and design results, drawings and reports. When changes do occur, the built-in intelligence automatically stores the modified information. Tekla Structures minimizes overlapping work phases and errors, which translates into shorter project lead times, significant cost savings and better building quality. The Tekla Structures solution covers the entire structural design process from conceptual design to detailing, fabrication and construction site.

RESEARCH AND DEVELOPMENT

> Early 2001 was a turning point for the North American precast concrete industry. Not only did the industry unite, it pledged to design software that would fully integrate engineering, production and construction operations through advanced information technologies.

The Precast Concrete Software Consortium (PCSC) was established as the voice of the industry. The consortium chose Tekla to jointly develop a final specification of a precast modeling platform. The full product was released September 2005.

> *The Tekla Structures solution covers the entire structural design process.*

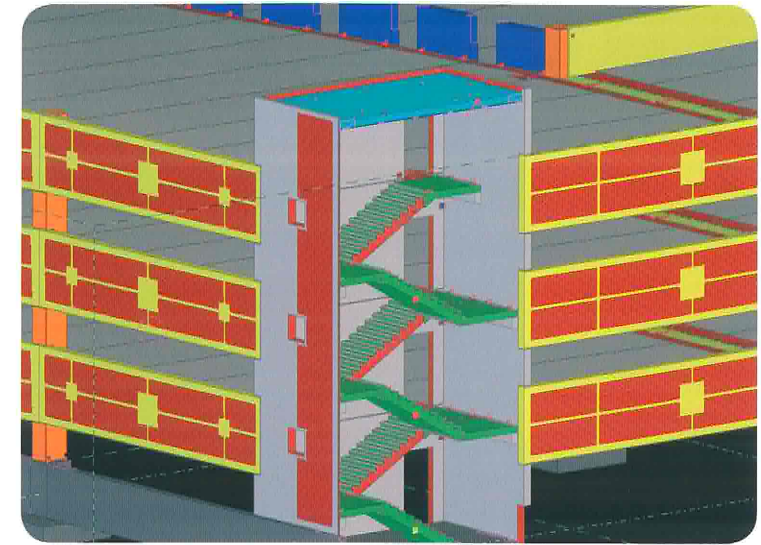
David Orndorff, Vice President Engineering for The Shockey Precast Group, played a key role as Technical Committee Chair for phase 2 of the PCSC. Shockey is a major mid-Atlantic structural and architectural precast/prestressed producer with two facilities located in Virginia. The company typically executes up to 50 distinct commercial projects per year including parking structures, office buildings and sports venues of all sizes.

Shockey began precast-specific 3D modeling during the PCSC software developmental trials. Shockey went from modeling pilot projects to ghosting projects to actual commercial applications. Full-scale implementation of Tekla Structures began in fall 2005 and Orndorff holds high expectations for Tekla Structures. "With the development of modeling and template standards, each project will bring greater proficiency. We expect our current project, the Shenandoah University Student Center Parking Garage, to show measurable productivity enhancements. Shockey's implementation of Tekla Structures is a work in progress."

IMPLEMENTATION DETAILS

> Shockey was onboard to help guide the software development cycle, and such has been able to reap the benefits from the start in its own operations. "Superior top-down modeling architecture was what attracted us and what has kept us involved with the software", comments Orndorff. "We're used to providing as much information as possible in erection drawings – now that production drawings are related to the model, dimensional information already exists within the model. All drawings are automatically updated and generated as modifications are made. Our detailers see immediate visual recognition of spatial conflicts."

But what Orndorff sees as enormously beneficial are the collaborative features. "The model is the common data source for anyone who accesses it – from the initial modeler, to downstream engineers, to viewers in manufacturing operations. This element has great potential. Shockey employs 8 structural engineers, 12 technicians and contracts 15 technical consulting firms that perform roughly 60% of our engineering and drafting. Our vision is such that much of our management system will share information with our 3D models. Tekla Structures will facilitate that by requiring us to create information only once. Thus, we will eventually insist those consultants who wish to continue work with Shockey operate on the Tekla Structures platform."



Orndorff is a firm advocate of both Tekla Structures and Tekla. "North American precasters are a suspicious bunch, with a traditional 2D mindset. The switch to 3D modeling takes committed training hours, resources and hardware. When it is time to jump into 3D – notice I emphasize the word when and not if – Tekla Structures will be the obvious choice. I strongly recommend off-site training to lessen the burden on the producer's management staff. This provides the much-needed boost for efficient implementation."

> *"Superior top-down modeling architecture was what attracted us and what has kept us involved with the software."*

