

ONVI COLLABORATES WITH RADIUS TO SPEED DELIVERY OF THE WORLD'S FIRST SMART VIDEO TOOTHBRUSH



Case Study

PROPHIX by ONVI

Company	Onvi
Industry	Dental Technology
Country	USA
Employees	51 - 200
Websites	www.getprophix.com



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— Dr. Craig Kohler,
CEO and Co-Founder, ONVI

CHALLENGES:

- Bringing a dental technology vision to life from proof of concept to final product
- Strong product strategy, branding and development expertise needed to drive process

SOLUTION:

- Radius delivered end-to-end product design, development and delivery capabilities under one roof
- Optimal cultural match streamlined process while ensuring successful outcomes

BENEFITS:

- Close alignment between product development, 3D printing and manufacturing teams sped time to market by months, if not a year
- ONVI is poised to deliver the world’s first smart video toothbrush to change people’s lives and transform patient-dentist relationships

The American Dental Association estimates that up to 10 percent of adults in the United States suffer from dental phobia so paralyzing it prevents regular dentist visits. Research reveals that up to 75 percent of American adults also experience some level of anxiety or fear when it's time to go to the dentist.

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— Emily Kohler,
CMO and Co-Founder,
ONVI

As a practicing dentist in Chicago for over 35 years, Dr. Craig Kohler knows that one of the keys to overcoming dental fear is effective dentist-patient communications. “It’s important to provide the best possible dental experience,” he explains. “Then patients will be less fearful and more interested in taking better control of their oral health.”

To that end, Dr. Kohler is among a handful of dentists nationwide who routinely use streaming video through sophisticated microscopes to deliver premium patient care. What started as a tool to improve treatment outcomes soon evolved into a way to help patients better understand their oral health status and improve regular cleaning habits. “If patients can see what they’re doing while brushing at home, they would be able to clean their teeth more thoroughly and consistently,” he adds. “This especially true for those hard-to-see and most commonly overlooked spots.”

Shedding Light on Oral Healthcare

The idea of enabling people to see inside their mouths led Kohler to form ONVI, an innovative startup

with the mission to help people keep their teeth for life. “You wouldn’t shave in the dark, you wouldn’t put on your makeup in the dark, and you certainly wouldn’t wash your car while only seeing a portion of it,” Kohler says. “The same thing applies to your teeth—if you can see what you’re doing, you can do a better job of cleaning and protecting them.”

Links between oral health and risk factors for heart disease, stroke, certain cancers and Alzheimer’s disease have been well documented. “What really appealed to me was the opportunity to benefit society,” Kohler adds. “All while enabling people to see their dentist as a real positive influence in their lives.”

Co-founder and CMO Emily Kohler shares her father’s passion for helping others, especially while serving as manager of his dental practice, where she saw firsthand the impact of live video. “Patients were so engaged when they watched the videos and realized better outcomes over time,” she says. “The idea of bringing this benefit to everyone was exciting as it would enable us to make a real difference in the world.”

Early on, Dr. Kohler met with an engineering firm to discuss the development of new tools for microscopic dentistry. As the idea moved in the direction of a video toothbrush, however, the firm suggested Radius, an innovation and product development consulting firm with more relevant experience in the space. Radius previously had led the design and development of an iconic, powered toothbrush brand. With offices around the world, including a studio near Kohler's practice in Chicago, Radius is uniquely qualified to guide companies through each phase of product discovery, design, development and delivery.



Acquired by Jabil in 2013, Radius provides integrated product development and manufacturing capabilities to speed time-to-market while lowering risks. “After the first meeting, I was really convinced that Radius was the company to help us bring this idea to life,” Kohler adds. “They were nothing but encouraging and shared our excitement about building a premium, precision-quality product.”

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hurdles,” explains Dr. Kohler. “Radius’ end-to-end capabilities supported the entire process—from product and brand strategy, to brand development, device design and development, packaging as well as ultimate delivery to consumers.”

The Proof’s in the Concept

In kicking off the project, Radius held a series of focus groups with dental professionals and people from different walks of life and varying interests in oral healthcare to gain a better understanding of market demand. “It was fun to sit behind a mirror and watch people experience our concept and see the value in having a toothbrush that streamed live video,” Dr. Kohler notes. “This process confirmed there was a definite need in the marketplace for our product.”

Next, Radius helped the Kohlers brainstorm brand direction, including devising a name for the company and product. The name for the company, ONVI, emerged from those sessions because it conjured a meaning of “on life,” which supported the organization’s overall mission to improve lives. The name for the video toothbrush, Prophix, was derived from “prophylaxis or prophyl,” the common term for teeth cleaning at a dental office. Together, the group worked on the look and feel for the company and product brands to ensure they conveyed the pinnacle of quality and innovation.

These same objectives helped drive the proof of concept phase, informing user experience, feature set, connectivity and more. “The

proof of concept phase was vital,” says Ms. Kohler. “What started as an idea for a video toothbrush soon evolved into a video dental care system for ensuring a more positive experience for users and their dentists alike.”

A Dream Becomes Reality

Focus group feedback raised the need for different attachments so people could personalize their brushing experience. Camera placement also was given a lot of consideration as it became clear that embedding the camera into the brush would improve usability and picture clarity. “Radius was fantastic at being transparent from a product design and development process,” Ms. Kohler adds. “They made sure we understood the milestones and what needed to happen and when before we could move to the next phase. Radius was an extension of ONVI in helping make the dream a reality.”

Radius drove each ideation step to inform decisions on look, feel and function. This unrelenting focus helped ONVI determine the best user experience at the optimal cost point. “I’m always pushing the envelope, so wanted a camera with the highest resolution possible,” recalls Dr. Kohler. “During the proof of concept, we learned that using a lower-resolution camera with higher processing speed produced the desired image and performance we needed at a better price point.”

Radius industrial engineers also researched lighting and motor type to improve overall product design and user experience. “Radius

certainly helped to increase overall product value, and I always trusted the team's input," Dr. Kohler adds. "They even connected us with stellar partners to assist with other aspects in terms of video, app and website development, as well as branding and PR—all 'A Players' like Radius."

3D Printing Slashes Time and Cost

Guided by learnings from continuous product design, build and test loops, Radius developed Prophix prototypes using advanced 3D printing capabilities at Jabil's Blue Sky Innovation Center in San Jose, Calif. "It really helped from a startup perspective to produce 3D printed prototypes first before making a major capital outlay in tooling," explains Ms. Kohler. "Radius is playing a huge role in helping us define what Prophix will be, which is the heart of innovation."

Equipped with working prototypes using 3D printed parts, ONVI showcased the first-ever smart video toothbrush at the January 2017 Consumer Electronics Show in Las Vegas. The first public demonstrations of ONVI's groundbreaking technology highlighted how the prototype paired wirelessly to an IOS app, using Bluetooth and Wi-Fi, to display oral health status through a live video feed while brushing. "Radius was key to helping us prepare for CES," notes Ms. Kohler. "They were on-call in terms of supporting

the demo, while ensuring an outstanding response from prospective customers, potential investors and reporters."

Both Radius and Jabil teams are aligned to further simplify supply chain management as ONVI ramps production to ensure on-time deliveries of Prophix at the lowest landed total cost. "We're incredibly excited to have Jabil and Radius join us on our journey to change people's lives for the better by taking better care of their oral health," says Ms. Kohler. While it may seem unlikely at first, startup ONVI has experienced many parallels working with Radius' and Jabil's world-class product developers and manufacturing prowess. "ONVI, Radius and Jabil are all looking to affect the world in a positive way," concludes Dr. Kohler. "We all share a vision to make a real difference, and it shows in the energy, focus and commitment to delivering on our brand promise."

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About Jabil

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