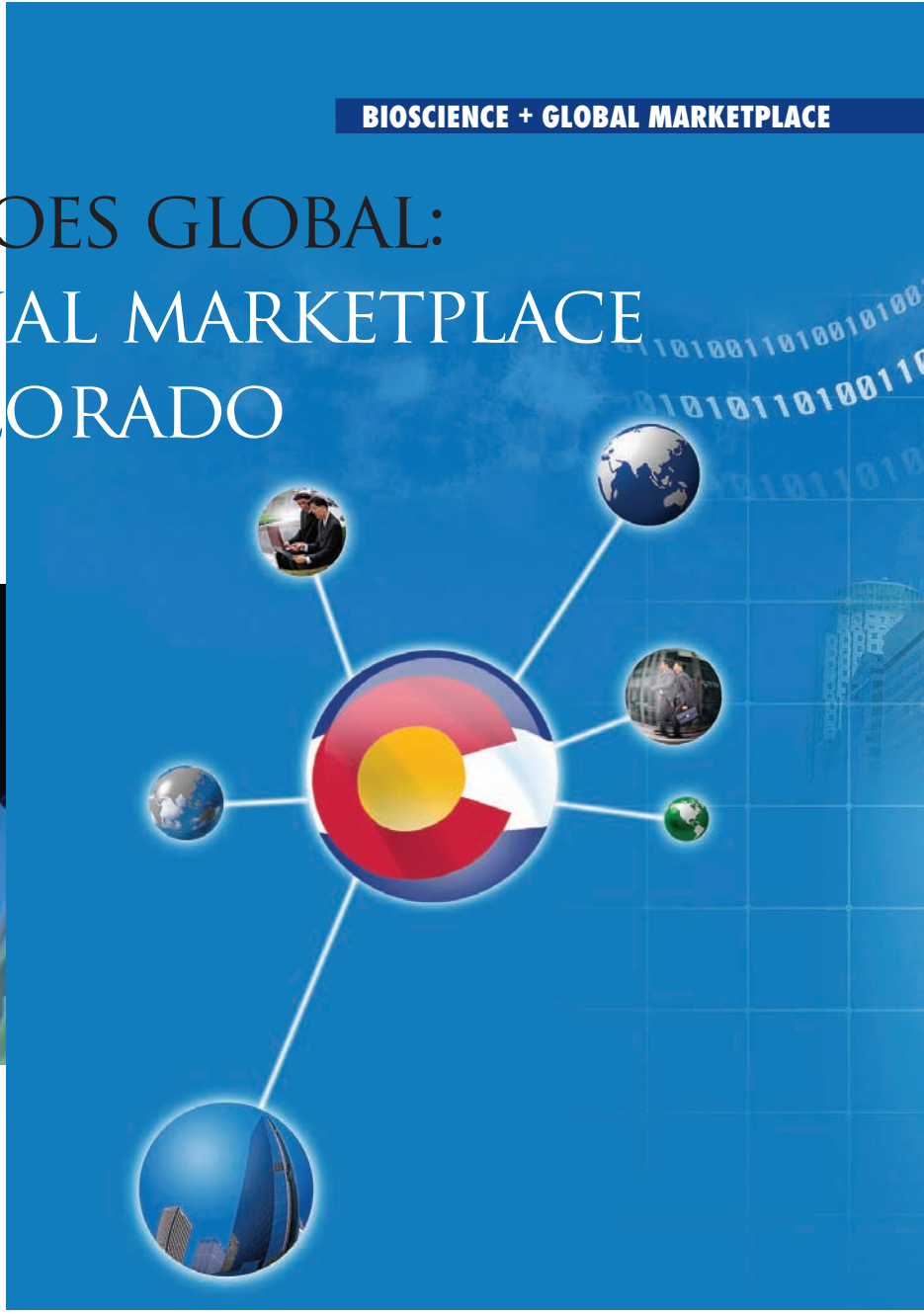
Bioscience goes global: International marketplace vital for Colorado industry



BY RACHEL BRAND

Twenty years ago, fledgling bioscience entrepreneurs dreamed of deals with New Jersey pharmaceutical companies and funding from Wall Street. A startup's business plan would sketch out clinical trials at leading American medical centers, U.S. Food and Drug Administration approval and a late-stage domestic licensing deal.

The biotech industry has grown up, and now it travels in international circles. Investors are as likely to come from Europe, Japan or Latin America as the United States. New company business plans may include – or even prioritize – overseas research and development, manufacturing and marketing.

"The 'globalization' of biotechnology/life sciences is now well established," wrote venture capitalist G. Steven Burrill on the Burrill & Company web site, highlighting India and China as the next big markets.

That's nothing new to Colorado bioscience firms. Highlands Ranch-based Sandhill Scientific Inc., for instance, manufactures its gastroenterology diagnostic devices in Prague, Czech Republic. Fort Collins-based TOLMAR was spun off by Canadian firm QLT and is owned by Argentinean distributor Technofarma. Companies that range from 12-person Inviragen to 450-employee Baxa Corp. see great their future in overseas markets.

NEW FRONTIERS AT BAXA

Englewood-based Baxa makes suites of products that help health-system pharmacists safely, efficiently and precisely handle, package and dispense liquid medications. It likens its products to a kitchen food processor that enables pharmacists to blend custom preparations, while its competitors provide ready-made preparations – akin to TV dinners. It also offers products to ensure that liquid medicines are dispensed safely, avoiding medication errors that stem from wrong-site administration.

The 34-year-old, $100 million company sells its products in more than 50 countries.

"Very early on we realized that in order to grow, we would have to market internationally," said Marian Robinson, vice president of marketing. "We tend to market in countries where health care is delivered in a similar way to the United States."

Offices in Europe and Canada enable salespeople to work directly with local hospitals in a handful of countries. But in many regions Baxa works through distributors, and recently has added sales offices for direct representation in target countries. As the company grows, this sales model will continue to expand.

"We are dedicating more individuals to focus on selling into individual markets, and to determining what those local markets need," Robinson said. "It might mean localizing the Web site, adjusting the products we already have, developing regional specialty products, and becoming a little less English-centric."

It also means addressing American employees' stereotypic image of Europe as a monoculture. 'Health-care delivery is very different from country to country in Europe," Robinson said, "and you have to understand those differences to manage the sale process."

Cultural finesse extends to understanding foreign regulations, which have gotten more complex. Baxa works with consultants and in-house experts to understand and meet diverse countries' rules. "Trademark registration and intellectual property protection can be daunting."

Some overseas markets are too risky, Robinson said. Baxa doesn't sell or manufacture in China, for instance, in part to avoid the possibility of patent infringement. While intellectual property theft is illegal, "for a small company to litigate something like that is a significant ordeal.

Beyond growth opportunities, Robinson notes that international work has advantages: It brings best practices to light.

"When we talk to our counterparts in Europe, they long ago understood the issues around sterile compounding and took steps to upgrade the cleanliness of their pharmacies," she said. "If we make a product that meets their requirements, that's great for the U.S. market."

INVIRAGEN'S GLOBAL REACH

Dan Stinchcomb logs 100,000 frequent flier miles a year traveling to India, South Korea, Columbia and parts of the U.S. His Fort Collins-based company Inviragen Inc. has licensed technologies from the Fort Collins-based division of the Centers for Disease Control and is working to commercialize vaccines for plague, West Nile virus and dengue fever.

From the start, the 12-person firm focused on overseas markets, global partners and multi-country clinical trials.

The cost advantages alone are stunning; the company's relatively tiny $5.5 million in funding has gone further with Inviragen's global business model than would be possible working in the U.S. alone. It's made it possible for the five-year-old company to already be on the cusp of human clinical tests for its most advanced product, a dengue fever vaccine.

Dengue fever is endemic to tropical and subtropical regions, home to an estimated 3.5 billion people. Its incidence has increased rapidly worldwide in recent years, thanks to urbanization and poor mosquito control.

Dengue fever is caused by any of four variants of a flavivirus, DEN-1, DEN-2, DEN-3 and DEN-4. While infection by one variant brings lifetime immunity to it, a person can still be infected by any of the other three.

Inviragen's vaccine is based on an attenuated strain of the DEN-2 virus, much as the measles-mumps-rubella and yellow fever vaccines are based on safe modifications of virulent viruses.

The genetically engineered DEN-2 backbone contains antigens for the other three viral strains, resulting is a vaccine shown to be safe and effective against dengue fever in mice and monkeys.

Although it conducts preclinical work in Fort Collins, Inviragen manufactures its GMP-quality vaccine in partnership with Shantha Biotechnics in Hyderabad, India.

"We were looking for a manufacturer in an affected region that could produce the vaccine to World Health Organization standards," Stinchcomb said. "We didn't want to manufacture a high-cost vaccine and then transport it to affected areas. The costs are one-third to one-quarter lower there."

The challenge was providing Shantha the expertise to grow the vaccines. Time zone differences added a wrinkle of complexity.

Inviragen is also collaborating with the Pediatric Dengue Vaccine Initiative in South Korea to organize safety trials this year in the U.S., Colombia, Singapore and possibly India.

While it can be confusing to address a myriad of regulatory frameworks, Stinchcomb believes the clinical trials may progress more quickly offshore than in the United States. "In developing countries, you can often get fast recruitment and very good compliance, and that can shorten timelines."

The company plans to develop a tiered pricing structure; the developing world's growing, affluent middle class can afford medications, Stinchcomb says. Plus, American travelers to affected regions will seek vaccinations against dengue fever.

Funding has been a challenge, Stinchcomb admits. Inviragen's focus on unmet medical needs has allowed it to win grant funding from the National Institutes of Health, and the firm has a few international seed capital investors. But attracting major U.S. venture investment has been difficult.

"The challenge for Inviragen in raising additional venture financing is that the venture capital groups really focus on markets in the U.S. and Europe," Stinchcomb says. "So we are talking to some venture capital groups that are much more visionary."