

Sandia Lab News
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US-Mexico border lab would address problems, eliminate barriers

Sandia technology exploitation key to economic, social sustainability

By Howard Kercheval

Members of Sandia's Advanced Concepts Group (ACG), whose job is "thinking outside the box," have come up with a concept well beyond their own parameters: It's halfway "outside the country."

They visualize creation of a Bi-National Sustainability Laboratory (BNSL) to be built literally on the border near Santa Teresa, N.M., and the Juarez municipality of San Jeronimo, Chihuahua. The BNSL would be staffed with specialists from the US, Mexico, and elsewhere and committed to fostering economic development as the means of eliminating barriers between the two countries.

Their concept is based on the conviction that open borders come from a sustainable economy that creates wealth through the application of advanced technologies to industries and manufacturing processes.

The US-Mexican border is one of the longest in the world separating one country of extreme wealth from another with an emerging economy. It has a long history of depressed economics and infrastructure stress on both sides.

The BNSL will be an applied technology laboratory that will spawn new industries to grapple with energy, water, air quality, infrastructure, and economic development issues. The resultant prospering industries will generate new technologies that, in turn, will create new industries to export products worldwide.

Business creation key to success

Teams of experts in technology development and deployment, business development, marketing, and finance — all working together — will concentrate on business creation in several fields. The targeted areas include:

- Water and agriculture
- Advanced manufacturing technologies
- Health care
- Energy, air, and transportation
- Workforce development
- Information Technology and communications

VP and Principal Scientist Gerry Yonas (16000), who leads the ACG, and other members of the project group — Maher Tadros, Vipin Gupta (both 16000), and Gary Jones (1313) — are already at work seeking support and funding for the project. Vipin has moved to the Paso del Norte area

— El Paso, Juarez, Las Cruces — to work with the border universities and local organizations in establishing the BNSL.

“Through the Cooperative Monitoring Center and other groups, Sandia has been studying the application of technology to prevent or resolve conflict for some time,” says Gerry. “The BNSL will pull together much of what we’ve learned and put it into practice, and that will yield results that we can apply worldwide.”

Already attending conferences and other meetings focused on border issues, he says efforts of the next few months will be concentrated on developing a series of projects and forums in both countries to bring together members of federal, state, and local organizations who can play key roles in establishing and funding the BNSL.

“It’s important that this not be perceived as just a Sandia project, or even just a US project,” he says. “Success hinges on both Washington and Mexico City thinking of the BNSL from its establishment as a 50-50 partnership, with equally shared participation. Both sides of the border will benefit, but the key is that we need solid commitment from both sides if we are to succeed.

“I’m going to Mexico this month, and while I’ll be looking for help from any responsible quarter, I’ll be looking mostly for a sort of ‘soul-mate’ — someone who will be as ardent a supporter of the lab in Mexico as I am here,” he adds.

Senators support concept

Sen. Jeff Bingaman, D-N.M., ranking minority member on the Senate Energy and Natural Resources Committee, which oversees Sandia and other DOE facilities, praises the notion behind the project.

“The Bi-National Sustainability Lab is a truly innovative idea, and one I would expect from a world class institution such as Sandia,” Bingaman says. “Through its focus on key scientific, economic, and social issues, this lab has the potential to spur economic development and create a better life for people on both sides of the border.

“But moving this effort forward is going to take support from government and other organizations on both sides of the border,” he adds. “I look forward to working with Sandia and others to get this bi-national initiative off the ground.”

That support is echoed by Sen. Pete Domenici, R-N.M., also a member of the Energy and Natural Resources Committee, and chairman of the Senate Budget Committee.

“I give credit to the Labs and the others involved in organizing this collaboration to further economic development in the border region, an issue that is of great interest to me,” says Domenici.

Labs Director C. Paul Robinson touched on the problems the BNSL is aimed at addressing during his recent State of the Labs assessment to state and city leaders.

“We want to become the laboratory that the US turns to first for technology solutions to the most challenging problems that threaten peace and freedom for our nation and the globe,” he said. And, he added, “This year the lab’s executive team spent considerable time defining our core vision. . . . We defined our core purpose as ‘Helping Our Nation Secure a Peaceful and Free World Through Technology.’”

Paul said of the BNSL, “This is exactly the kind of initiative that will give witness to Sandia’s commitment.”

Skeen lauds possibilities

Rep. Joe Skeen, R-N.M., who is a member of the House Appropriations Committee and chairs its subcommittee on Interior, and whose Second Congressional District includes the area that will be home to the BNSL, also sees the Labs’ technological expertise as key to the project.

“Development along the US-Mexico border is vital to the economic success of both nations,” Skeen says. “Utilizing our resources and maximizing the technologies available will support our efforts to develop this area in the most efficient and environmentally acceptable manner possible.”

And, he adds, “The effort by Sandia National Laboratories to develop and implement a comprehensive approach for the border certainly merits consideration.”

Gerry points out that one of the urgent problems is public health along the border area. The federal government has designated 28 of Texas’ 32 border counties — and all six New Mexico border counties — Health Professional Shortage Areas.

Of even greater concern is water supply. Almost 90 percent of the fresh water available in the US-Mexican border region is currently used for agriculture; the remaining 10 percent is allocated to municipal and industrial use.

But with the growth of urban areas along the border, municipal and industrial water needs are expected to double over the next 50 years, and in Juarez — just across the border from El Paso, Texas, and Mexico’s eighth-largest city — water demand is expected to triple over the next 15 years.

“As long as we have these problems in the US and Mexico, we’ll have a troublesome border,” Gerry says. “A successful BNSL would solve many problems. We have an unprecedented opportunity to enable people in both countries to improve the quality of their lives.”