



VIEW*S* & VISIONS

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Economic Diversification Through Software Development

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Amanda Laucher is Co-founder and President of Mined Minds Foundation, an organization that develops technology hubs in Appalachia by providing free software development skills to unemployed and underemployed people wanting a new career and attracting sustainable tech jobs to the region. Laucher also co-founded GPdL, a software consultancy that employs technologists who have trained with Mined Minds to develop software for clients across the country.

A native of Greene County, Pennsylvania, Laucher holds a degree in computer science, but believes employable skills should not require expensive qualifications. She has a keen interest in ensuring employment is achievable by everyone in the region, and believes that opportunities for sustainable careers should be widely available to all who desire to work. She works closely with government agencies, as well as not-for-profits, with similar goals, and is a member of Southwest Corner Workforce Development Board.

Laucher is active in the global technology industry, having worked on six continents during more than 15 years as a technology consultant with firms such as IBM, ThoughtWorks and Neo4j. A frequent guest speaker at international technology conferences, she specializes in programming languages and techniques, as well as lean product development and processes.

The fate of the coal industry was an important factor in the voting patterns of the 2016 presidential election and remains a major influence in the economic well-being of our region. While this might feel like a uniquely Appalachian issue, especially considering the press coverage the subject has received recently, we can look outside of the U.S. to learn about economic recovery strategies for regions impacted by the decline of coal.

Synergizing Local and National Issues

Marvin, a former coal miner (and my younger brother), was the inspiration for Mined Minds – the nonprofit I co-founded to grow tech hubs within rural Appalachia. In the summer of 2015, he announced that he was expecting to be laid off, like so many of his colleagues, and was worried about how he would support his family. There were no other jobs locally that could pay what the mines had been paying, and he felt his only option was to become an over-the-road truck driver. The lack of sustainable, safe and high-paying professional career opportunities in the region was devastating.



At the same time, I was working in Chicago as technology consultant with a strong focus on software development. Work was plentiful, and the money was good. However, the industry had problems hiring developers because of a lack of domestic talent. Billions of dollars of development were outsourced annually to countries such as India, Brazil and Ukraine.

The creation of tech hubs across Appalachia presented an opportunity to simultaneously tackle both problems.

A Tale of Two Regions

In the United Kingdom, over 90 percent of coal jobs were lost during the 1980s and '90s, with some regions suffering up to 50 percent decline



Representatives from Thriva, a Seattle-based software company and Mined Minds client, share apples from Washington State on a recent visit



Coding is a collaborative process. Mob Programming is how we teach students to work together and solve problems.

in local employment. Some areas, decades later, are still suffering from high levels of unemployment and poverty, while others enjoy a more economically privileged position than they held during the booming coal era. The contrasting fate of South Wales and Yorkshire can greatly inform us about what we need to do.

Like Appalachia, South Wales is a mountainous area of low population density, strong cultural identity and difficult terrain. Since the coal jobs have gone, it is also an area that has suffered high levels of unemployment and poverty. In contrast, Yorkshire, a region in the north of England, has rebounded much more strongly. Why? It appears that the most striking difference between the areas is the relatively central position that Yorkshire holds within Britain and its strong transport links. Connection to the rest of the country proved a major advantage in diversifying its economy.

Does this mean that Appalachia needs to invest more in roads to increase economic diversification opportunities? West Virginia Governor Jim Justice certainly believes so, and likely did the research in advance of his “Roads to Prosperity” initiative.

Not all industries, however, have a strong reliance on physical transport. As software developers, all we really need to be successful is a good internet connection. And while connectivity isn't perfect across the region, there are plenty of locations where it is good enough. Beyond that, we are connected to the rest of the country by language, similar time zones and cultural reference points, so Appalachia has the potential to attract the tech industry as an option over offshoring high-paying, sustainable jobs.

Developing the Workforce

Igniting new industry requires a pool of skilled workers, and making an impact quickly takes non-conventional approaches.

In order to serve people who neither have the time nor the finances to attend a university to study, Mined Minds was created and immediately offered an intensive, free software development boot camp. Initially funded by its founders, we are now able to extend our services by partnering on an Appalachian Regional Commission (ARC) grant. We're now in our eighth cohort, and while the format and content of the training has evolved, the focus on software fundamentals and industry readiness has remained constant.

Although the loss of coal mining jobs was the inspiration for us starting, ex-miners account for only a small proportion of people that have attended the training. Diversity of backgrounds and ideas is exceedingly beneficial for the creation of software, and we hope that as more ex-miners demonstrate that they can establish successful careers in tech that they will act as role models to encourage more to enter the field. We also hope that new generations of workers dive head first into the tech industry with new opportunities in the region.

Our training has a reverse-classroom format, with learning accomplished by completing individual and group projects rather than eyes-forward listening. This takes self-resilience, perseverance and strong collaborative skills; it does not suit those who prefer to complete work as instructed. However, if the style of training fits the individual, training can lead directly to new positions in tech without requiring a move away from the region.

In addition to the training provided by Mined Minds, we have been able to partner with local educational facilities at the high school, community college and university system levels to introduce programs that qualify students for software development careers.

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Amanda Laucher
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Diversifying the style of training and locations of the offerings allows more individuals to take part and is a more scalable approach to quickly creating tech hubs.

Attracting the Work

To have a significant economic impact on a region, a new industry must bring money in rather than just redistribute cash from within the area. We have found success in doing this in two different ways.

First, by offering quality software development services at a lower cost than firms in major cities, we have been able to attract clients from across the country, including New York, Chicago, Atlanta, Seattle and San Francisco. Development dollars that would have stayed in the cities or migrated

abroad are now flowing into Appalachia, enabling us to create well-paying and sustainable career opportunities. The amount of work that is available is already huge, and we are restricted by the rate that we can hire talented developers. As the region becomes known as a hub for tech, we anticipate the demand for services will only increase.

We are also able to help bring money to the region by working with local companies and entrepreneurs. Custom software was often out of reach for these organizations and individuals due to cost, so by offering affordable services they are able to take advantage of technology solutions and become more competitive on a regional and global level.

The Future

The introduction of tech hubs across Appalachia certainly has the potential of increasing economic success in the region, but it is just one piece of what is required for economic diversification. To be successful, the region must grow many different industries, and a tight connection with the rest of the country is essential for this to happen. ∇



Something Old, Something New: Financing Tools in the Economic Development Toolkit

Roger D. Hunter, Thompson R. Percy & J. Berkeley Bentley
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(a sector that includes many health care providers). Such bonds will be, in our view, important tools in battling the opioid addiction crisis, which is a major priority in the U.S., generally, and an absolutely critical one for West Virginia. The recent federal tax overhaul left in place the ability to do tax-exempt qualified “501(c)(3) bonds,” and we believe that these bonds could play an important role in financing much-needed addiction treatment facilities, operated by tax-exempt 501(c)(3) organizations.

There are also options for financing through various state agencies, again, depending upon the type of project needed in the community. The Water Development Authority, for example, serves as a revenue bond bank that seeks to provide needed financing for certain economic infrastructure to protect and improve public health and to encourage economic growth. We have worked with municipalities and local public

service districts to obtain financing, including federal funding sources and tax-exempt bonds, for their much-needed local projects to expand or improve service to the public they serve.

West Virginia’s leadership has done a great job focusing on and investing in programs that incentivize economic development, including the recent Roads to Prosperity highway building program and the related general obligation bonds approved by voters in October 2017, which will bring significant positive economic impacts in the short term as well as the long term. Our team is experienced in using any and all of the tools in the financing toolkit that can help make our client’s plans or goals a reality. And while this article has only presented a few of the many and varied financing tools we use today, we’re always looking for new and creative ways to make the difference between just a great idea and a project that gets fully funded and off the ground.

Bowles Rice attorneys and strategists have often been at the forefront of the legislation creating these tools, are poised to facilitate the implementation of economic development programs and regularly help clients navigate the complexities of finding the right financing options for projects that contribute to the economic development of our great Mountain State. Whatever will work best for you and your community, whether something old or something new – or a mixture of both – we look forward to helping take your economic development projects from concept to reality! ∇

¹Business and economic development leaders continue to push for a constitutional amendment that would eliminate *ad valorem* property taxes on manufacturing machinery, equipment and inventory. The latest such push was House Joint Resolution 106, which, at the time of this writing, looks as though it will not be adopted in the 2018 Regular Session of the West Virginia Legislature. Thus, we expect lease purchase financings to continue to be a vital tool for the foreseeable future.