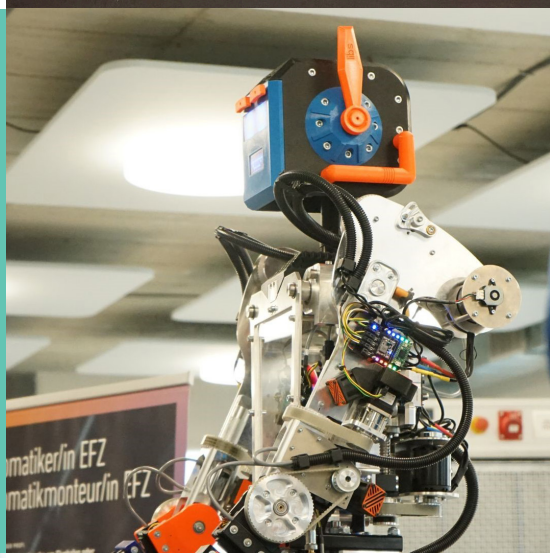
Indiana's New Career Pathway:

PREPARING MORE HOOSIERS FOR SUCCESS AFTER HIGH SCHOOL

iLAB INDIANA
STRATEGIC PLAN



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PREPARED BY

CEMETS iLAB
Indiana

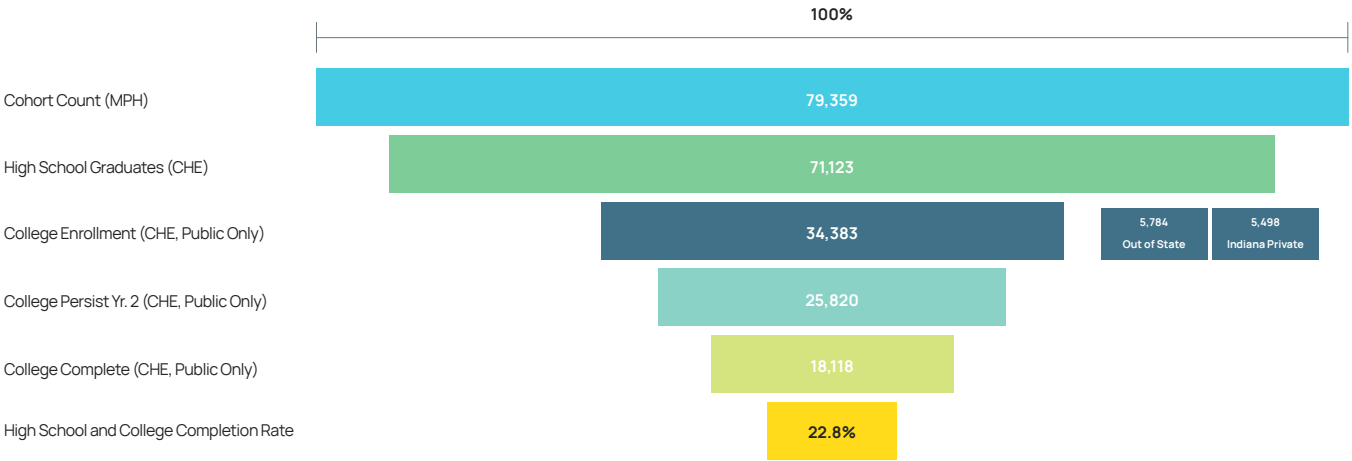
A PATHWAY TO A STRONGER FUTURE

Our nation's economy is evolving at the most rapid rate in its history due to the twin impacts of automation and artificial intelligence. Jobs now require increasing levels of educational attainment to keep pace with advancements in business and industry. Yet, despite significant investment, too few Hoosiers are connecting with education and training opportunities that prepare them for careers. Indiana's talent shortages worsened during the pandemic and are expected to increase due to an aging population, a declining workforce participation rate, and evolving labor market needs.[1]

By 2031, 72% of jobs in the U.S. will require education or training beyond high school.[2] Indiana faces a shortfall in meeting this demand with only 39% of adults 25 years and older holding an associate degree or higher. Indiana's current college enrollment rate is 53% and college completion rates are persistently low, with only 47% of students graduating on time and 67% graduating within six years.[3] On average in Indiana, less than 40% of each high school cohort graduates from high school and earns a college degree.

For example, in 2013, there were 79,359 Indiana students in the graduating class. Of those students, only 89.6% graduated. Of the students who graduated, only 48.3% enrolled in a public Indiana college or university. After the first year, 25% of those students did not move on to year two and only 22.8%, or 18,118 students, of the 2013 graduating class completed a two- or four-year degree from a public Indiana institution.[4] Another 11,282 students enrolled in college out-of-state or in a private Indiana institution, but even assuming a 100% completion rate, the total high school and college completion rate is only 37%.

High School Cohort Advancing to Graduation from High School & Indiana Public Postsecondary Education (2012-13 All Indiana Students)



1 Ascend Indiana and EmployIndy report: Indiana's Evolving Labor Market, Nov. 2022.
2 Georgetown University Center on Education and the Workforce, After Everything: Projections of Jobs, Education, and Training Requirements through 2031, Nov. 2023.
3 Indiana Commission for Higher Education, Indiana College Completion Report 2023.
4 Business Equity for Indy, Racial Gaps in the Education-to-Workforce Pipeline and Indiana's Opportunity to Close Them.

Empowering Students Drives Success

What excites Indiana Secretary of Education Dr. Katie Jenner about the youth apprenticeship model she saw in Switzerland is not that it's something she's never seen before. On the contrary: She's excited because she has seen many of its characteristics lead to successful outcomes for students at some school districts in Indiana.

"I'm all-in because I see what's happening around the state in those school districts that are empowering kids and offering these types of experiences," Jenner said. "The schools that are most impactful on students tend to be those that allow personalization and allow kids to go after their dreams, and that includes having experiences outside of the classroom walls that pique their interest."

Of course, Jenner is also excited because she believes Indiana needs alternatives to its current approach. With about 51% of students graduating on time from a 4-year institution and countless residents who are unprepared for today's workplace, she says something clearly is not working.

And that leads Jenner to something else she saw in the Swiss model that's needed in Indiana: a seamless transition from high school into whatever is next, whether that's college, a career, or the military.

Dr. Katie Jenner, Indiana Secretary of Education, and Dr. George Philhower, Superintendent of Eastern Hancock Schools

Dr. George Philhower, Superintendent of Eastern Hancock Schools, also sees that transition as a key concern. Even among students who are enlisted, enrolled, or employed by graduation day, too many of them don't have a long-term vision of where they're headed. In Switzerland, he said, he saw youth who weren't waiting until the day after graduation to start thinking about the future.

To create that kind of system will require changes in Indiana, Philhower said, and he pointed to three key areas of need.

First, employers need to have a voice in how we prepare young people for the working world. Too few educators understand what students need to know to hit the ground running after high school. The Swiss model emphasizes collaboration with industry.

Second, we need to change our career counseling model, making sure counselors aren't the only ones responsible for preparing students for post-secondary life and giving counselors a better understanding of what employers need from their emerging workforce.

Finally, we need to ensure that the graduation-requirement redesign that Indiana is engaged in helps more students succeed, regardless of whether they're college-bound. "Looking at the data right now," Philhower said, "I don't think anybody would argue that we're hitting the mark."

Jenner agreed. That's why she wants to bring the best of the Swiss model to Indiana and combine it with the best of Indiana schools. "We're learning from Switzerland, not trying to make Indiana Switzerland," she said.

"Indiana has done much to align education to the needs of a 21st century economy. Youth apprenticeship is a next-level transformation that will allow students to explore and master career pathways while earning postsecondary degrees and credentials in an intentional and cost-effective way. As the Swiss have demonstrated, youth apprenticeships build a stronger talent pipeline for Indiana employers and help Hoosiers grow their education attainment and wages. If we get this work right, Indiana will have a permeable, integrated work and learning system that isn't Swiss, but Hoosier by design – and this system is going to be critical as technology and AI continue to change our lives."

DR. SUE ELLSPERMANN
PRESIDENT, IVY TECH COMMUNITY COLLEGE

This low educational attainment affects both Indiana employers and individuals. Employers are unable to find the talent they need to grow their businesses and individuals enter the job market without the skills employers seek, limiting their career opportunities and earnings potential. While the college degree pathway will always offer one critically important solution to this challenge, it is not designed to meet the needs of all students or employers.

Recognizing that the traditional college pathway isn't serving the majority of Indiana students and cannot meet our talent needs alone, momentum has been building in Indiana to create a professional education and training pathway where employers and educators work together starting in high school to develop skilled talent. This new pathway must be systemized at the state level to ensure students in every community can access it, and that the competencies students gain result in a formal credential recognized by both employers and the higher education system. Together, the existing college pathway and a new professional pathway can operate as part of a broader education and training system that engages the vast majority of Indiana's high school students.

Indiana's journey to develop a professional pathway began in 2017 when leaders from K-12, higher education, business, and government began learning about the Swiss vocational and professional education and training, or VPET, system with funding from philanthropy. The Swiss VPET system – consisting of VET programs for youth and PET programs for experienced learners – features a highly successful apprenticeship model combined with related academic instruction and is considered the world's gold standard for educating youth and fulfilling labor market needs. Approximately 65% of high school students in Switzerland participate in a three- or four-year VET program, which includes a paid, year-round apprenticeship and typically consists of three days of work and two days of school per week. When the apprenticeship concludes, students can work for the same employer, find a different job, or enroll in higher education in academic or professional pathways, depending on their career aspirations.

From 2017 to today, Indiana leaders have closely studied the Swiss system and visited Switzerland eight times to meet with companies, industry associations, and inter-company training centers and discuss how the VPET system could translate in Indiana. Additionally, as of September 2024, Indiana has seven sites operating pilot youth apprenticeship programs and two more in the planning phase. We refer to these sites as **youth apprenticeship intermediaries**, as they help connect employers, students, high schools, and the higher education system during the apprenticeship program. Through the work of these intermediaries, Indiana has more than 100 employer partners, 40 school partners, and 450 students participating in youth apprenticeship programs in 13 counties.

The iLab recommendations for establishing a professional pathway result from almost eight years studying the Swiss VPET system; 10 months of immersive study of industry's role in the VPET system; and almost five years of experience implementing pilot youth apprenticeship programs in Indiana.

THE SWISS MODEL: A BLUEPRINT FOR THE FUTURE

Swiss leaders began their journey to reform their education and training system in the late 1970s, when they recognized what many of us in Indiana have recognized today: we need both a college and a professional pathway to meet labor market demands, and we need to enable flexibility between those two pathways. By the late 2000s, the Swiss had a formalized, employer-led professional pathway – known as **vocational and professional education and training (VPET)** – culminating in varying levels of professional degrees that hold equivalent labor market value to academic degrees, along with career guidance and other support programs to help students navigate the system.

A hallmark of the re-engineered Swiss system is its permeability, which means that students and adults can move up and across both the academic and professional pathways as their career interests change and the labor market evolves. Today, Swiss leaders refer to their education and training system as one with multiple options and no dead ends.

It is also characterized as an output-oriented, coordinated system in which three partners – employers, educators, and the government – work together in support of a shared mission and agreed standards.[5]

What is perhaps most relevant for Indiana is that the re-engineering of the Swiss education and training system is well-documented, enabling other countries and states to adapt lessons learned from Switzerland within our own contexts. While the re-engineering process took Switzerland about 30 years, it will be possible for states like Indiana to move faster if we focus on building the critical functional capacity that we know makes the Swiss system successful.

PROFESSIONAL PATHWAY: DEFINED

Switzerland's VPET system is led by employer associations who identify in-demand occupations within their industries and the related knowledge, skills, and competencies; develop the curricular content alongside educators; and deliver a significant portion of this education and training through on the-job learning. It enables employers to play a leading role cultivating the talent needed to meet their evolving workforce needs. Employers can take on these responsibilities because they have organized themselves through industry associations to speak as one voice when it comes to their talent needs.

5 Services/publications/data-base-publications/vocational-and-professional-education-and-training-in-switzerland.html

The professional pathway begins in the 10th grade with a three- or four-year paid, year-round apprenticeship, spanning about 240 different occupations, paired with school-based instruction, leading to one federally recognized credential called the vocational and educational training (VET) diploma. It continues through adulthood with more than 500 professional programs enabling career progression within each industry and for each occupation.

The occupations for 10th graders are broad, not narrow, in scope. Sample apprentice occupations include polymechanical engineer, healthcare worker, and IT technician. As a student progresses along the professional pathway, the occupations become narrower to enable specialization.

This ensures two things: (1) students and their families see the value in gaining broad exposure to an industry in addition to specific job skills, helping to keep demand high for apprenticeship programs, and (2) employers gain an employee with a broad set of skills and competencies, enabling them to allocate the apprentice to meet the real-time needs of their company rather than to a specific task or work process that may not be relevant as the industry evolves. Families know that with a VET diploma, students have a ticket up to further education and into the labor market.

To maximize value for both the apprentice and employer, the minimum amount of workplace training during the apprenticeship is 50%, and ideally closer to 65%. In addition, a student's academic classwork is aligned with the occupation selected for the apprenticeship, which frees up the necessary time for on-the-job learning. This also creates flexibility in their schedule should the apprentice want to participate in extracurricular activities such as sports. To explore more about how this works in Switzerland and what it could look like in the U.S., see **Maintaining Flexibility for Student Extracurricular Activities** [Appendix A].

Training of VET Professionals

Practice (within the sector)

Inter-company training at **host company**, 3 – 4 days per week *(practical trainer)*

Branch courses at branch **training center**, several times a year *(branch course trainer)*

Theory (commercial employee)

Classroom instruction at **vocational school**, 1 – 2 days per week *(vocational school teacher)*

Source: Swiss Bakers Association Presentation, Feb. 27, 2024

Back to the Future, for the Sake of the Future

Dennis Murphy and Mike Schroyer see the opportunity to bring youth apprenticeships into Indiana's healthcare workplaces as a step into the future and a nod to the past.

Murphy, President and CEO of IU Health, and Schroyer, President of Baptist Health Floyd Hospital, say that, while the apprenticeship model being brought to Indiana offers a fresh approach to solving the state's workforce-preparation crisis, it also echoes the way healthcare professionals used to be trained.

"If you go back decades, people learned to practice medicine in largely an apprenticeship model," Murphy says. "You spent time shoulder-to-shoulder with those who have expertise and did that with graduated responsibilities over time."

Schroyer certainly can relate. He is a registered nurse who started his healthcare career as an orderly at age 16. In his final years of high school, he went to school in the morning and worked at the hospital in the afternoons and weekends as part of a program similar to the Swiss model. He then trained in a diploma school of nursing, which put him in the hospital four days a week and the classroom one day. As a result, when he became a registered nurse, he already knew how to care for patients, manage the hospital workload and help those around him. In fact, he says, nurses who came from more traditional bachelor's degree programs often "followed me around to learn."

Mike Schroyer, President of Baptist Health Floyd Hospital, and Dennis Murphy, President & CEO of IU Health

While Murphy and Schroyer are enthused by the way this new approach can help to address the workforce shortages they're experiencing, they're also excited by the impact it can have on young people. Healthcare youth apprenticeships, for example, can offer an option to the tens of thousands of Indiana high school students who are interested in finding meaningful careers, but they may feel that they are more engaged learners in the workplace. "These are talented and smart kids who want a more active, hands-on learning experience," Murphy says.

When they met students like the ones they're describing during trips to Switzerland, the two iLab committee members were impressed. "These kids were very proud and, at a young age, were entrusted to do things they were being taught," Schroyer says.

Another thing Murphy liked about the Swiss program was that it allows for flexibility. "We talked with a number of kids who started on one track, didn't like it, and then switched," he says. "It's structured for people to on-ramp and off-ramp."

The two healthcare executives recognize that bringing the Swiss model to Indiana could come with challenges. For example, extracurricular activities in Switzerland are handled differently from the U.S., so there will need to be some adjustments to ensure kids can still participate in sports, theater, clubs and so on.

But these two veterans of hiring in the healthcare industry believe such challenges can be overcome, and the resulting nod to the past and step into the future will benefit employers, workers, and the state of Indiana.

BRINGING PROFESSIONAL PATHWAYS TO LIFE

Implementation of Switzerland's VPET system is shared by three partners: government, industry, and educators. Below is a simplified description of the main responsibilities of each partner and how they are organized and governed.

Roles and Responsibilities

Government	Employers and Industry Associations	Educators
• Quality assurance and strategic system oversight • Ensure students have access to apprenticeships • Ensure national comparability and transparency of occupations and curriculum • Provide regional career guidance services • Approve and oversee dual VET providers (schools, employers, and inter-company training centers) • Oversee final examinations and degrees	• Establish program content (curriculum) and training materials for each occupation • Establish national qualification standards for each occupation • Establish inter-company training capacity when needed • Create apprenticeship positions based upon industry/employer need • Train apprentice supervisors to ensure employers can successfully manage youth in the workplace • Administer exams for workplace learning	• Support career exploration activities beginning in 8th grade in partnership with employers, industry associations, and regional career guidance centers • Provide related educational content throughout the three- or four-year dual VET program aligned with each occupation (average 2 days/week) • Coordinate with industry associations to develop and update the school-based portion of the dual VET curriculum • Administer exams for school-based learning

[6]

Funding for each of the three partners in the system is well defined. The federal and local government funds government- and education-related activities for the duration of the three- or four-year apprenticeship. Employers pay the full cost of all employer and industry association related activities. No subsidies are provided to employers, as economic research shows this distorts labor market signals by, for example, providing incentives to employers to hire apprentices for a higher volume in a given occupation than the labor market needs. This could result in a scenario in which a student completes an apprenticeship and can't find a job within their chosen occupation. To read more about funding, see **Funding Indiana's New Professional Pathway** [Appendix B].

6 https://www.sbfi.admin.ch/sbfi/en/home/services/publications/data-base-publications/vocational-and-professional-education-and-training-in-switzerland.html

Industry Associations

In Switzerland, employers speak with one voice at the federal level when it comes to the VPET system through industry associations.

Like associations in the U.S., Swiss industry associations advocate for their member companies by lobbying, and they host conferences and convenings. In addition, Swiss associations have VPET divisions solely focused on identifying occupations and creating and updating the apprenticeship curriculum, in close partnership with their member companies, educators, and government. Associations are also responsible for working with member companies to develop professional training curricula for the advanced workforce.

"Youth apprenticeships provide employers the ability to grow and develop their own talent pipelines, as well as the ability to collaborate with local educators to develop a system that provides additional pathways to success for students."

NICOLE OTTE
DIRECTOR OF WORKFORCE DEVELOPMENT, ENDRESS+HAUSER USA

The key functions of an industry association's VPET division are to represent employers nationwide regarding their talent needs. Through annual convenings, associations assess current and projected talent needs through the following steps:

Identify: Based upon employer input, identify the key occupations within the industry, the "work cases" for each occupation, and the resulting competencies that must be demonstrated. Work cases are the tasks and functions an employee is expected to perform.

Partner: In partnership with government and educators, determine which competencies are best trained within schools, by employers, and/or by inter-company training centers.

Develop: Develop a recommended syllabus and supporting materials for the employer-led training for each occupation that can be utilized by all employers within the industry, as well as a curriculum for inter-company training courses. These may be developed in-house or in partnership with an inter-company training center.

The skillset of the staff who oversee and manage industry association VPET functions is very important. In Switzerland, industry associations are staffed by people who have years of working experience within that sector as well as experience with and affinity for training staff within a company. These are typically not educators by background, but rather those who have significant work experience within the sector.

Qualifications Framework

The levels of federally recognized diplomas conferred to students and adult learners form another important element of the VPET system. As part of its systems re-engineering work, Switzerland established national standards to ensure that all VPET qualifications are allocated to levels defined in a National Qualifications Framework for Vocational and Professional Qualifications (NQF VPQ). The National Qualifications Framework describes the knowledge, skills, and competencies that must be demonstrated at eight different levels. A quality assurance process ensures that qualifications are at the appropriate level, which then establishes degree equivalencies across the academic and professional pathways to enable labor market mobility.

To view two of the eight levels, illustrating the differences in knowledge, skills, and competencies by level, see **Switzerland's National Qualifications Framework for VPET Qualifications** [Appendix C].

Each apprentice receives a diploma aligned to the Swiss and European frameworks. The same is true of the professional and applied degrees awarded to adults who complete higher level programs within the professional pathway. This ensures the VPET degrees provide both national and international labor market value.

Swiss industry associations play a leading role defining the minimum standards across occupations and across the levels that an apprentice or adult learner must be able to demonstrate. These competencies are assessed by an examination process regulated by the federal government and implemented by schools and professional education providers for academic classes and by industry associations for on-the-job learning.

"We talked with a number of kids who started on one track, didn't like it, and then switched. It's structured for people to on-ramp and off-ramp."

DENNIS MURPHY
PRESIDENT AND CEO, IU HEALTH

The advantage of having both the academic and the professional pathways, each of which leads to equivalent education and training outcomes for in-demand occupations (e.g., registered nurse), is that students can choose the pathway that best meets their learning mode. Some students prefer more hands-on learning while others prefer more theoretical learning. Eventually, each type of student can arrive at an equivalent career outcome. The simplified graphic of the VPET below demonstrates the multiple pathways that are available to a student, with the arrows representing how individuals can progress along a pathway and move between the academic and professional pathways. The graphic uses U.S. terminology for ease of communication with Indiana stakeholders. While this is not the terminology used in Switzerland, we believe it helps describe at a high level the new learning pathways Indiana must work to build.

Switzerland's Education and Training System

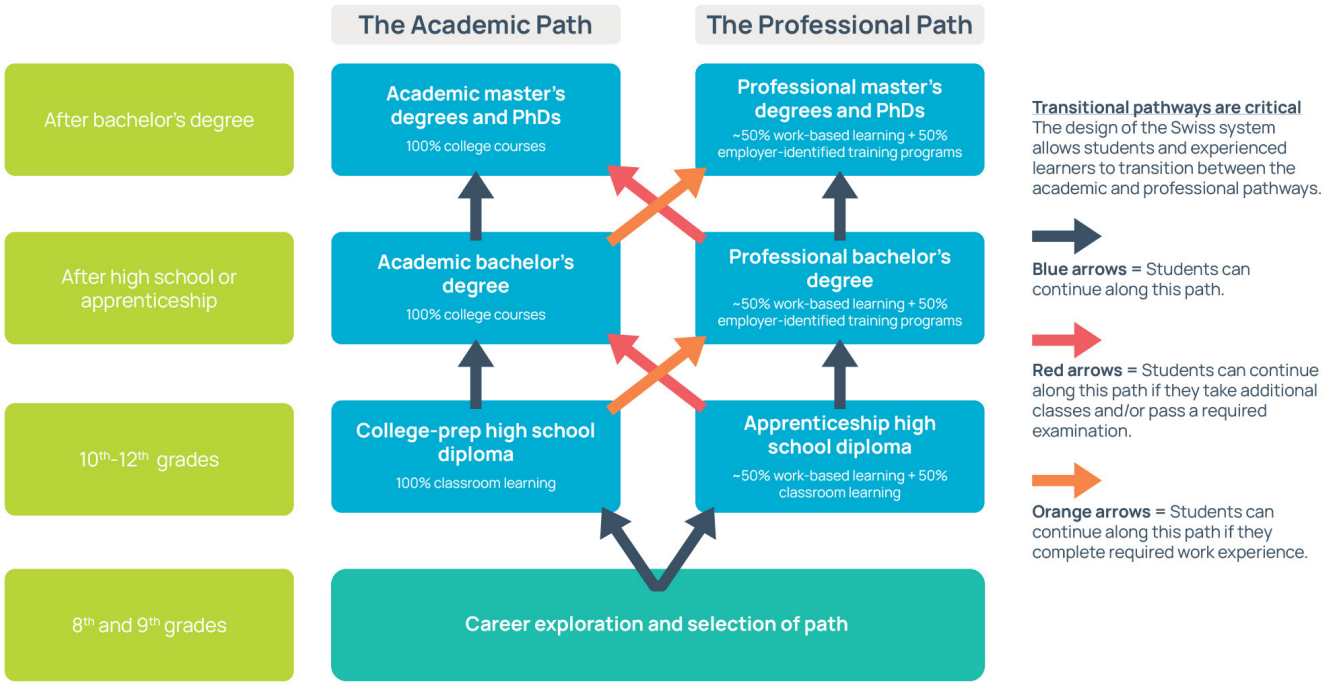


*Chart represents CEMETS iLab Indiana simplification of the Swiss VPET system. The diploma and degrees listed under the Professional Path have different terms in Switzerland and were intentionally modified for the iLab report.

Professional Career Advising and Case Management Support

A third key element of the VPET system is its career advising and case management system. Each Swiss canton – an area roughly equivalent in geography to an Indiana county – provides two levels of support for students and families outside of, and in partnership with, schools: career advising and case management.

Career advising centers are staffed by professionals trained in career advising with the latest labor market data so they can advise students and their families about available occupations and aligned university and professional pathways. Career advising centers are open six days per week, including evening hours, to support working families who might not be able to visit during the weekday.

Each canton also provides case management support for those students who struggle to make a choice about their next steps after compulsory schooling. These services are government funded.

Governance

As Switzerland's leaders worked to re-engineer the country's education and training system, they deliberately shifted from a fragmented, input-oriented governance structure to a coordinated, output-oriented governance structure. As part of this transition, the roles of government, employers, and educators were clearly defined.

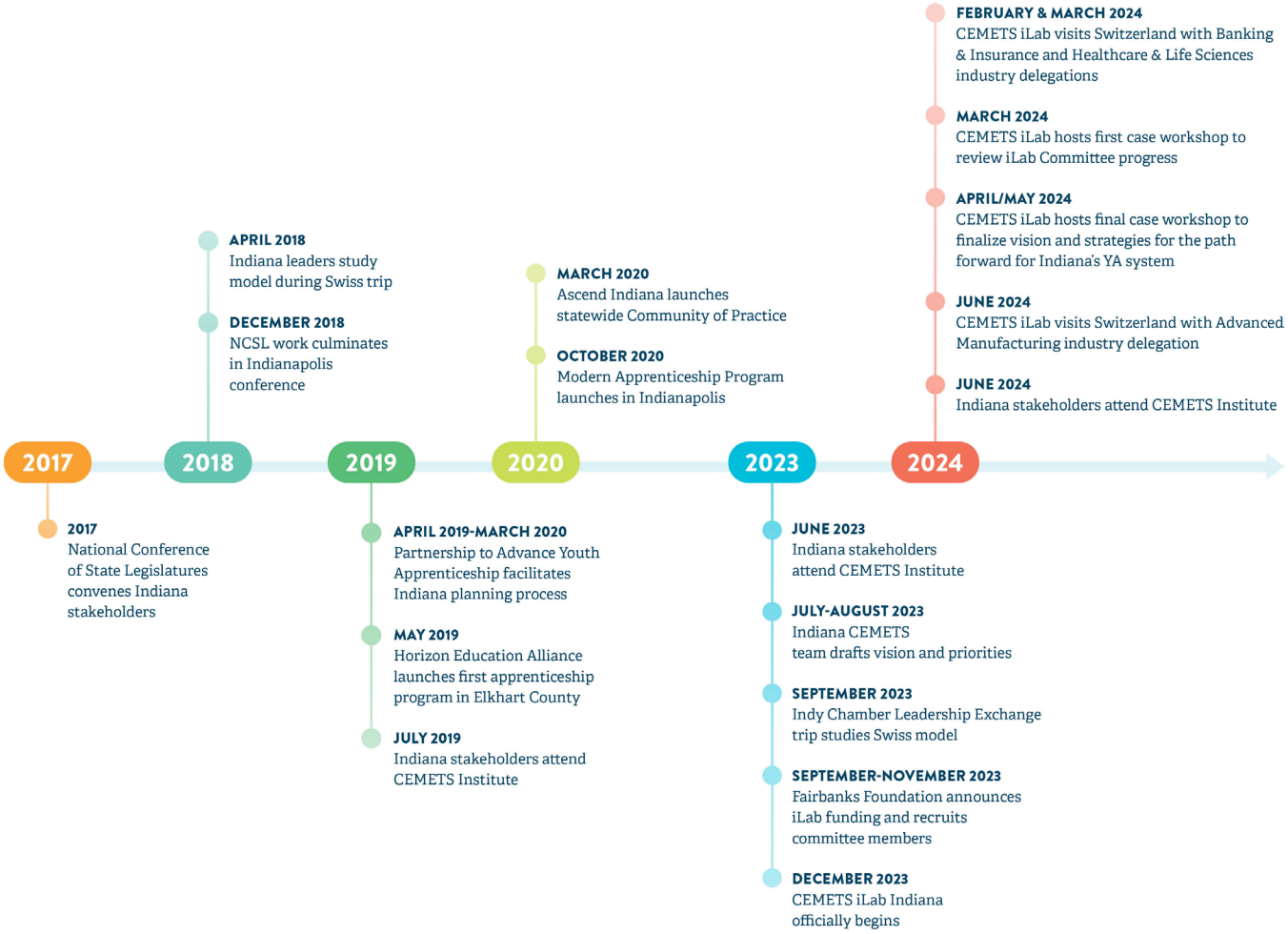
Fragmented, Input-Oriented Governance (pre-2004)	Coordinated, Output-Oriented Governance (post-2004)
• Input-oriented financing system. • Several national and local government units responsible for different work-based learning programs. • No national standards for all occupations, leading to different curriculum for each local region, sometimes even each employer and school. • No consistent and mandated role for industry associations.	• Output-oriented financing system. • One national government agency responsible for work-based learning, organized into a coordinated system. • One national curriculum framework in each occupation, spanning both the employer site and schools. • Industry organized as one voice for VPET programs through industry associations, which roll up to three national super-associations spanning all Swiss industries.

A benefit to this shift is the system clearly defines the roles, responsibilities, and expected outcomes for each of the three actors in the system while allowing for implementation flexibility. Once Switzerland made this governance shift, it established a national committee consisting of leaders from industry, education, government, and implementing bodies, led by the federal government. This committee focuses solely on oversight of the VPET system and numbers less than 15 individuals. Importantly for Indiana as we begin to build a new professional pathway, **establishing this shared ownership committee structure was not possible until industry had organized itself to speak as one voice**, representing the talent needs of all employers within every industry in the Swiss economy.

LAUNCHING A PROFESSIONAL PATHWAY IN INDIANA

Indiana's journey to create an employer-led professional pathway started with convening stakeholders to learn about the Swiss VPET system and then participate in a one-year planning process, followed by implementing pilot youth apprenticeship programs.

BUILDING INDIANA'S YOUTH APPRENTICESHIP SYSTEM



GETTING GROUNDED

2016-2019

In 2016, the National Conference of State Legislatures (NCSL) released its landmark study, *No Time to Lose: How to Build a World-Class Education System State by State*, which compares the U.S. with other nations' systems for preparing students for employment. In the study report, the NCSL describes the Swiss youth apprenticeship system, referring to it as the world's "gold standard" for educating young people while also meeting labor market needs.

In 2018, a delegation of Indiana leaders convened by Horizon Education Alliance traveled to Germany and Switzerland to learn about each country's approach to professional pathways. Leaders also learned about CareerWise Colorado's youth apprenticeship efforts.

The NCSL work funded by the Fairbanks Foundation culminated in a December 2018 conference in Indianapolis. More than 300 education, business, and workforce development leaders gathered to discuss how Indiana could expand its work-based learning opportunities. During this time, work-based learning was a key issue for Indiana, with the Indiana General Assembly adopting Graduation Pathways in 2018, which requires every high school student in Indiana to participate in some form of work-based learning to graduate.

PILOTING PROGRAMS

2019-2022

The first youth apprenticeship pilot program was launched in 2019 by Horizon Education Alliance in Elkhart County as an affiliate of CareerWise USA. In 2020, Indiana began to implement a two-fold approach: the launch of additional pilot programs and the creation of a statewide Youth Apprenticeship Community of Practice to convene communities across Indiana, learn from each other's piloting efforts, and identify barriers to scale.

This work, led by Ascend Indiana (an initiative of Central Indiana Corporate Partnership), was heavily informed by CareerWise USA's program design as well as guidance from leadership at the Center on the Economics and Management of Education and Training Systems (CEMETS) at ETH Zurich. Both CareerWise and CEMETS have provided ongoing technical assistance to Indiana since 2019.

As of August 2024, Indiana has seven sites operating pilot youth apprenticeship programs and two more in the planning phase. We refer to these sites as **youth apprenticeship intermediaries**, as they help connect employers, students, high schools, and the higher education system during the apprenticeship program. Through the work of these intermediaries, Indiana has more than 100 employer partners, 40 school partners, and 450 students participating in youth apprenticeship programs in 13 counties.

Indiana's youth apprenticeship program structure:

Three-year program

Starts in 11th grade

650 hours at the employer site

Traditional high school classes (including CTE classes, depending upon the occupation)

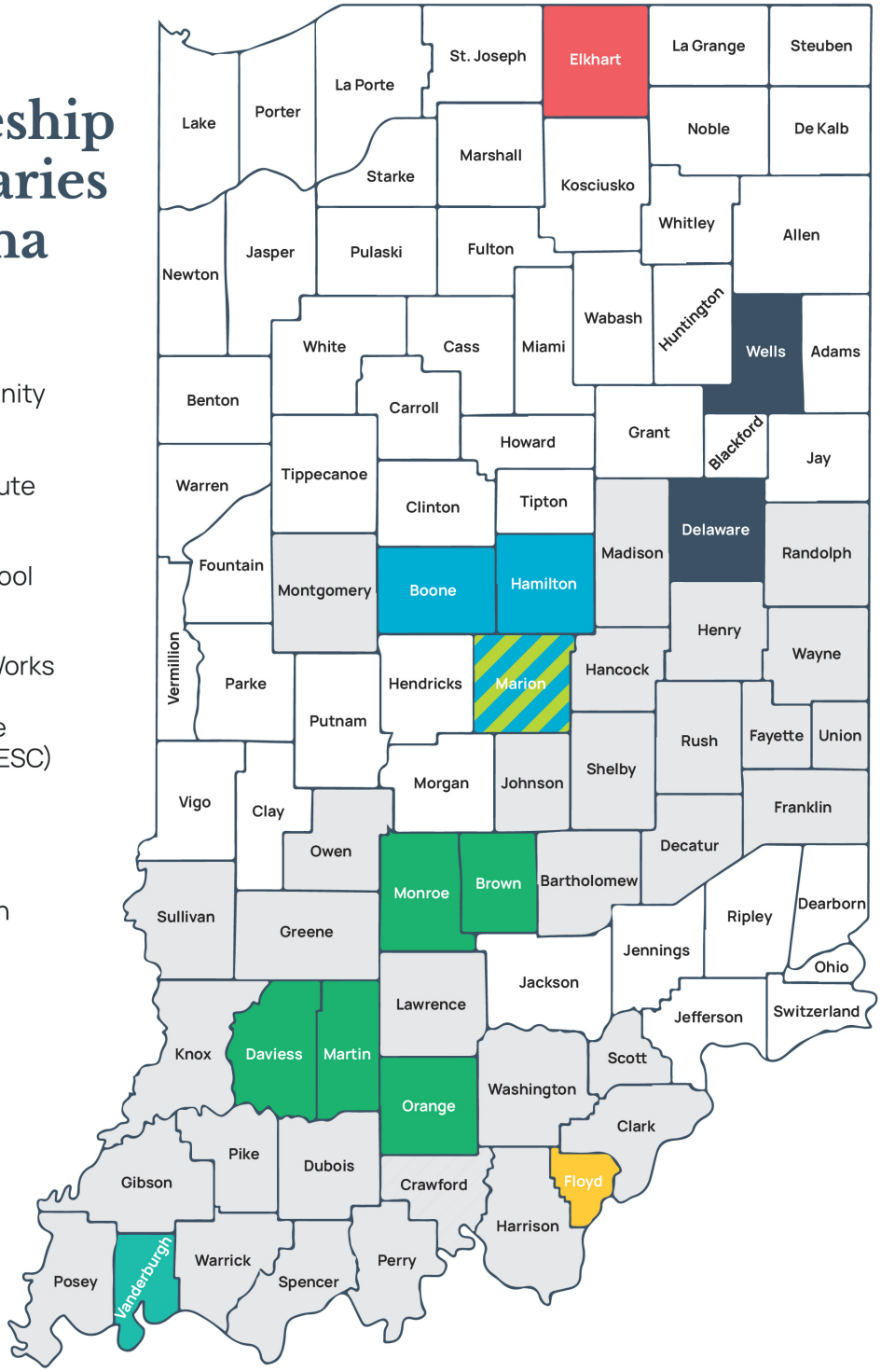
Dual credit classes

Progressive wages

Completers receive a high school diploma and an industry credential (depending upon the occupation).

Youth Apprenticeship Intermediaries in Indiana

- EmployIndy
- Regional Opportunity Initiatives (ROI)
- The Pursuit Institute
- Evansville Vanderburgh School Corp. (EVSC)
- Eastern Indiana Works & East Central Education Serivce Center (EIW & ECESC)
- Southern Indiana Works
- Horizon Education Alliance (HEA)
- Service region of current Youth Apprenticeship Intermediaries



The counties highlighted in the map represent where employers are hosting youth apprentices today.

Indiana's youth apprenticeship intermediaries and their employer and school partners have provided valuable insights into implementation successes and challenges, and they have also surfaced the following systems barriers preventing efforts to scale:

Lack of industry-created occupations, standards, and curriculum. Because industry doesn't speak with one voice when it comes to their talent needs, Indiana's intermediaries have worked with each employer to create customized, employer-specific apprenticeship programs. This has impeded the ability to develop a uniform set of knowledge, skill and competency requirements for each occupation at the industry level, which is a necessary ingredient for scale.

Inflexible high school schedules. Due to high school diploma credit hour requirements, apprentices have limited time outside of the school building to work at the employer site. This negatively impacts an apprentice's ability to learn workplace skills that would enable them to do productive work more quickly, thereby reducing the return on investment for employers. As a result, employers are more likely to see existing programs as corporate social responsibility initiatives instead of a scalable talent pipeline solution.

The Indiana Department of Education's proposed new Readiness Seals established through Indiana's current high school redesign efforts, particularly the Employment Honors Plus, provide greater scheduling flexibility for high school students to engage in rigorous work-based learning opportunities. The iLab will ensure that youth apprenticeship experiences that are part of the new professional pathway are both rigorous and consistently high-quality for students pursuing this path.

Few transportation options. Limited time out of the high school building combined with customized apprenticeship programs impedes the ability for schools or employers to provide students with transportation. Finding transportation solutions will require consistent workplace schedules for each occupation, in which students are at the workplace for full (not half) days.

Lack of comprehensive, labor market-aligned career advising for students. Tasked with multiple responsibilities, school counselors don't have the time to provide one-on-one career counseling to every student. In addition, few counselors have access to real-time, statewide labor market projections. This makes it challenging for students to select the best education and training pathway for their desired career.

No formally recognized credential that accounts for skills learned at the workplace. Today, an apprentice's only option to earn a credential recognized by employers and the higher education system is to earn an associate degree or higher. This has contributed to students exiting their apprenticeships early to pursue a college degree, limiting the return on investment for Indiana employers.

A fragmented work-based learning landscape. Indiana's current work-based learning landscape is fragmented and involves multiple education, intermediary, and government actors. This makes it challenging for employers to navigate work-based learning program options and can result in multiple entities trying to engage separately with the same employer, which is burdensome for businesses.

To address these programmatic and system barriers, the Richard M. Fairbanks Foundation awarded a grant to CEMETS at ETH Zurich to engage Indiana stakeholders in what CEMETS leadership refers to as an iLab (short for Implementation Lab). The purpose of CEMETS iLab Indiana is to help Indiana stakeholders identify root causes of systems barriers and develop solutions that will lead to scale. The advantage of the CEMETS iLab experience is that multiple stakeholders from different sectors are coming together to learn in detail about the functional capacity that enables the success of the Swiss VPET system, and then translate these learnings into practical next steps that fit within Indiana's context.

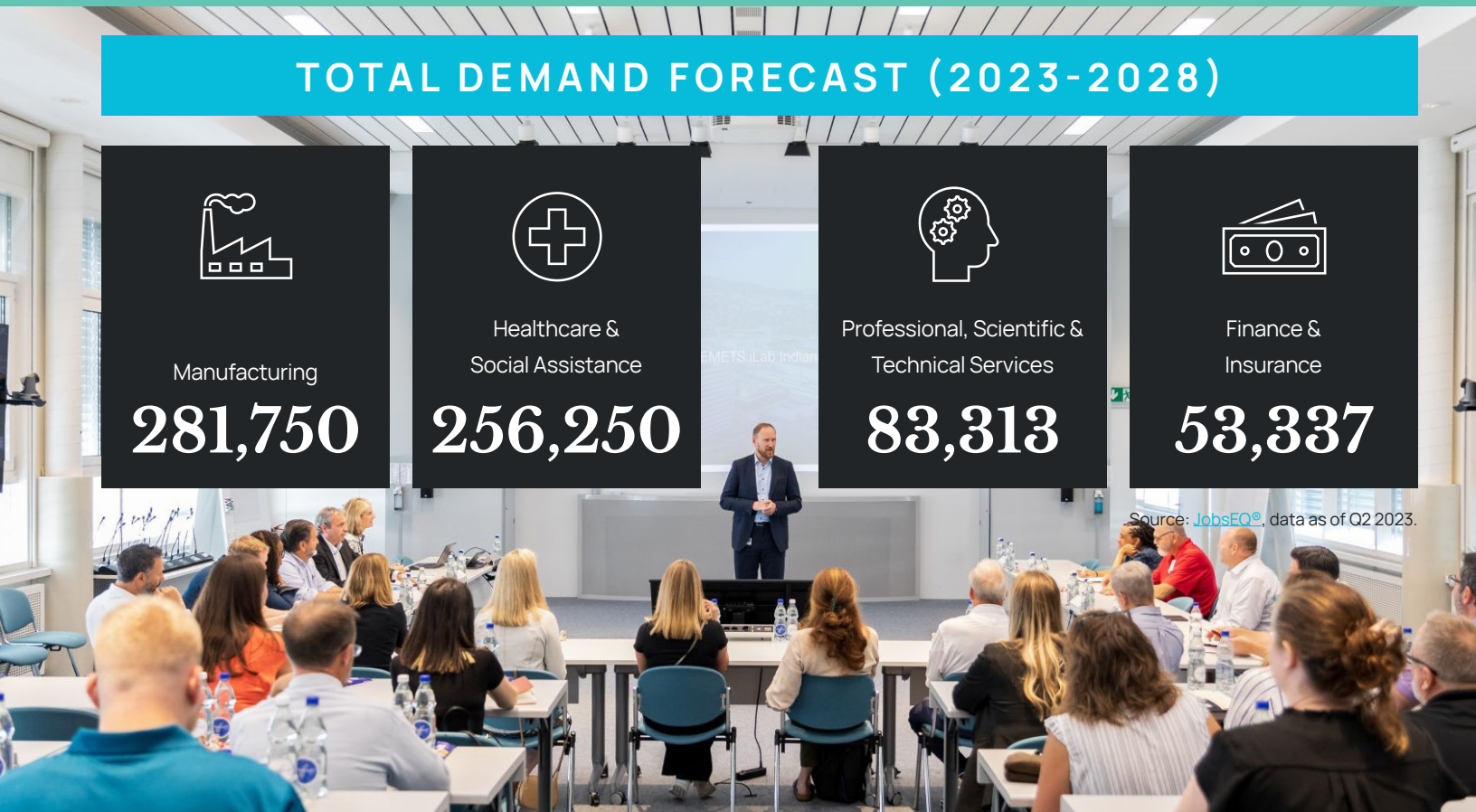
IMMERSING IN CEMETS ILAB INDIANA

2023-2024

CEMETS iLab Indiana launched in December 2023 and includes approximately 150 Indiana leaders across business, education, nonprofit, and government divided into five committees: Governing, Industry, High School, Higher Education and Policy. (See **Appendix D: iLab Committee Focus Areas** for more information on each committee) Each committee is tasked with developing solutions to the systems barriers described earlier. For example, the Industry Committee is focused on how to coordinate employers to identify industry-level occupations and develop the apprenticeship curriculum, and the High School Committee is focused on how to free up time in the high school schedule. iLab Indiana has initially focused on five industries — banking, insurance, healthcare, life sciences, and advanced manufacturing — where there are significant projected talent shortfalls and strong, existing executive-level support from Indiana employers for creating a professional pathway. Four additional industries emerged as priorities for joining the iLab in 2025: Information Technology (spanning all industries); Construction; Entertainment, Sports & Hospitality; and Microelectronics.

> "iLab's strategy of gathering leaders across multiple sectors to enhance the quality and accessibility of youth apprenticeship programs is critical for preparing Hoosiers for high-demand careers, increasing individuals' economic and social mobility and prosperity."
>
> **CHRIS LOWERY**
> INDIANA COMMISSIONER FOR HIGHER EDUCATION

The manufacturing and healthcare and social assistance industries combined represent more than 25% of Indiana's total job demand over the next five years:



January-July 2024

- iLab Indiana committees met regularly to learn more about the Swiss VPET system, discuss their committee assignments and identify recommendations.
- A key feature of CEMETS iLab Indiana has been industry-focused site visits to Switzerland, designed to help employers understand in more depth the role that industry associations, employers and inter-company training centers play in the Swiss VPET system. For each trip, K-12 and higher education representatives from the iLab joined to learn alongside employer partners and share their perspectives.

February

- Banking and insurance employers visited Switzerland.

March

- Healthcare and life sciences employers visited Switzerland.
- Committee representatives presented initial recommendations at an interim case workshop.

April-May

- Committees continued to develop their recommendations.
- Entire iLab met for a two-day final case workshop, then a three-day meeting to prioritize next steps.
- The five-day workshop concluded with a clear set of immediate next steps Indiana stakeholders must pursue to begin developing a statewide youth apprenticeship system.

June

- Indiana team attended CEMETS Summer Institute to refine the iLab's plan for launching talent associations and designing a statewide career advising system.
- Advanced manufacturing employers visited Switzerland.

Category	Sites Visited	
Associations	SBA OdA	Swissmem
Training Centers	CYP aprentas	Careum LIBS
Employers	Zurich Insurance UBS Novartis Medartis	University Hospital Zurich REGO-FIX Buhler Stadler Rail

RE-ENGINEERING INDIANA'S EDUCATION AND TRAINING SYSTEM

OUR VISION

In their effort to develop a coordinated, comprehensive education and training system serving both youth and adults, iLab Indiana members developed the following vision as their North Star.

By 2034, Indiana's education to workforce system will ensure every student and adult learner has access to high-quality education and training options, enabling all Hoosiers to discover their passions, reach their fullest potential, and meaningfully contribute to the economic and civic vitality of their communities. As a result, Indiana will become a Top 10 destination for employers seeking to expand existing businesses and entrepreneurs working to launch new businesses.

To achieve this vision, Indiana must develop a new, employer-led professional pathway that works alongside the existing college pathway to help educate and train high school students and adults.

By the year 2034, job openings are expected to grow in Indiana by about 107,000.[7] Combined with the approximately 150,000 job openings that exist today,[8] this projection presents a significant talent challenge for our state. While college graduates and the existing workforce will meet some of this demand, it is evident Indiana will need additional sources of talent.

iLab Indiana has set an ambitious goal of scaling programs combining youth apprenticeship experiences with related academic instruction to serve a cumulative total of 50,000 students by 2034. This equates to almost half of expected new job growth in the next decade.

7 Lightcast, Indiana Industry Table: 2024 – 2034 Jobs.
8 https://www.bls.gov/regions/midwest/news-release/jobopeningslaborturnover_indiana.htm

Banking on Returns on Early Engagement

As visits to Switzerland with iLab revealed the important role that industry associations play in the Swiss youth apprenticeship system, Amber Van Til and Mike Ash knew banking would benefit from jumping in as an early adopter.

After all, banking is one of the few industries in Indiana with a single statewide association, a feature that the Swiss say is integral to success because it allows the industry to speak with one voice and coordinate training efforts that provide young people with universal skills (as opposed to skills focused on a particular institution). It's also an industry that, like most others in Indiana, needs to attract more skilled workers.

With youth development programs already on their radar, the Indiana Bankers Association was delighted to get involved with the state's burgeoning apprenticeship program. As President and CEO, Van Til was especially excited at the opportunity to give her industry an edge in the increasingly tough competition for top talent. "It seemed like a natural progression," Van Til said. "Besides, if banking can be one of the first and successful industries out of the gate, we will be a more developed program."

Mike Ash, President of Fifth Third Bank's Greater Indiana Gateway Region, and Amber Van Til, CEO of Indiana Bankers Association

"There are a lot of talented students who don't know about our industry or who think you need a college degree to work in it," added Ash, who serves as President of Fifth Third Bank's Greater Indiana Gateway Region. "By bringing students to work in banks during high school when they're still mapping out their futures, the industry will give young people the chance to experience the workplace and learn about their opportunities."

Van Til says the opportunity for young people to experience the industry before investing in college is a real benefit of the Swiss program, because it allows students to see that they have options other than college. "We know kids who flourish in academic settings, but we also know students who are just as bright and learn better with hands-on learning," she says. "We all have different work styles."

Showing kids that banking welcomes their different styles should give the industry an advantage in the race to attract the best and brightest young workers. And if that isn't enough to encourage Hoosier bankers to get involved, Ash points to the apprentice-retention rate Swiss banks enjoy. For example, UBS Bank retains 76% of its apprentices. That's why Van Til and Ash are excited to be on the leading edge of the apprenticeship movement. "We want the cream of the crop," Van Til says. "And we are willing to put our neck out here early and develop in a meaningful way."

Based on almost eight years studying the Swiss VPET system, 10 months of immersive study of industry's role in the VPET system, and almost five years of experience implementing pilot youth apprenticeship programs in Indiana, the iLab has identified four priorities for immediate action. The number one priority is for industry to speak with one voice about its talent needs. Once industry has organized, K-12, higher education, and government partners can develop responsive systems and processes to enable youth apprenticeship programs to scale. Below are all four next steps:

1) Establish industry talent associations to convene employers; select priority occupations; identify the required knowledge, skills, and competencies for each occupation; and develop the curriculum for each occupation in partnership with educators. Once industry is organized as one voice, it will be easier to address high school schedules and transportation barriers.

Indiana barriers broken: Lack of industry-created occupations, standards, and curriculum; inflexible high school schedules; few transportation options.

2) Establish structured mechanisms that enable learners to progress up professional pathways, **and traverse across** the college and professional pathways, starting in high school and continuing throughout a person's career. This will require developing degrees that recognize the knowledge, skills, and competencies gained in the professional pathway and have labor market value.

Indiana barrier broken: No formally recognized credential that accounts for skills learned at the workplace.

3) Design a labor market-aligned career advising system starting in middle school that builds upon existing local and regional infrastructure and has the capacity to serve all students in Indiana.

Indiana barrier broken: Lack of comprehensive, labor market-aligned career advising for students.

4) Define clear roles and responsibilities for employers, education, and government, as well as private, public, and nonprofit sector stakeholders, to help Indiana begin to transition toward a coordinated, output-oriented governance and operating structure overseeing Indiana's professional pathway. Determine the funding mechanisms for each stakeholder based upon their responsibilities.

Indiana barrier broken: A fragmented work-based-learning landscape.

PRIORITY ONE: ESTABLISH TALENT ASSOCIATIONS

What We Learned:

The Swiss model relies on industry associations to give employers a unified voice at the federal level regarding vocational and professional education and training. U.S. industry associations have not typically played the same role, which means emulating Swiss success in Indiana will require building this capacity from the ground up.

To help industry organize as one voice regarding its talent needs, Indiana must establish what iLab members refer to as "talent associations," which will select priority occupations and identify the required knowledge, skills, and competencies for each occupation in partnership with educators. While existing industry associations could choose to take on this talent association role, other organizations may be better equipped to do so because they already convene industry partners to address talent shortages and professional development needs. Members also acknowledged that many industry associations are national, which could present challenges when developing new functional capacity serving only one state.

Following each of the industry-focused iLab site visits to Switzerland in 2024, each delegation identified the existing Indiana organization they believe could most readily assume the talent association function as this work gets off the ground:

iLab Industry	Talent Association Selection
Advanced Manufacturing	Conexus Indiana, a CICP initiative
Banking	Indiana Bankers Association (IBA)
Healthcare	BioCrossroads, a CICP initiative
Life Sciences	BioCrossroads, a CICP initiative

**The iLab's insurance sub-committee members have not yet selected an entity to play the talent association role. Their focus is on recruiting additional insurance company and insurance association representatives to join the iLab, with a goal of selecting a talent association entity by early 2025.*

iLab members agree the number one critical path is for industry to organize and speak with one voice statewide when it comes to identifying priority occupations, skills, and competencies. Once the new talent associations are established, each intends to start with one or two priority occupations where there is broad industry-wide demand (e.g., automation engineer, healthcare assistant). Once the requirements for each occupation are determined, talent associations can engage with the iLab's other committees on some of the other immediate next steps.

Because the Indiana Department of Education is in the process of revising the state's high school diploma requirements to free up more time in the high school schedule for those students choosing to enroll in high-quality work-based learning programs like a youth apprenticeship, the iLab's High School Committee and the emerging talent associations will monitor the diploma changes closely as new youth apprenticeship programs are developed to ensure that the number of days per week at the employer site align with new state requirements for high school schedules.

Core activities for Indiana's new talent associations include:

Identify priority occupations based on industry demand.

Create occupational career ladders from the VET to the PET level for each occupation and develop occupational standards for each level.

Identify the core work activities for the VET and PET portions of the programming, then disaggregate the knowledge, skills, and competencies that must be demonstrated when the student masters these work activities.

Convene educators from both high school and higher education to decide which skills and competencies should be taught in school and which should be taught at the workplace. Translate this into training content for each occupation.

Develop the training protocol for Human Resources directors and workplace supervisors who will oversee apprentices.

Determine whether inter-company training center capacity is required to help Indiana employers engage in youth apprenticeship.

Develop recommendations for how schools across Indiana should engage with member companies to support career exploration and enrollment in youth apprenticeship activities.

Several of the entities iLab members visited in Switzerland during site visits have agreed to serve in an advisory capacity as new talent associations get off the ground.

PRIORITY TWO: ESTABLISH MECHANISMS FOR PROGRESSING UP AND ACROSS PATHWAYS

What We Learned:

Students have options in the Swiss VPET system. Through a feature known as "permeability," a student is free to move from one pathway to another. For example, a student may enter the workforce after earning a VET diploma and then pursue additional professional education and training, or the student could begin on an academic pathway and transition to a professional pathway, all while pursuing equivalent credentials. (See chart on page 11)

Making this permeability possible is Switzerland's National Qualifications Framework, a feature that iLab members agreed must be a part of Indiana's system to avoid allowing students to get stuck in dead-end programs and to ensure different types of learners can progress in their careers through either the college or professional pathway, or both, depending on their preferences and needs. A Qualifications Framework is also essential to developing professional degrees that recognize the skills and competencies gained within the professional pathway, with levels equivalent to academic degrees earned within the college pathway.

As a next step, the iLab established a **Qualifications Framework Working Group**. Working group members agreed to start with the priority occupations identified by each of the new talent associations.

Core activities for the Qualifications Framework Working Group include:

Conduct a deep dive on qualifications frameworks from around the world and learn more about Colorado's recent efforts to build a qualifications framework.

Design a qualifications framework for Indiana, including the desired number of levels and the knowledge, skills, and competencies required at each level. Begin to work on how we can bridge to Colorado's qualifications framework so we can begin the formation of nationally aligned levels.

Map the priority occupations identified by each talent association to the Indiana qualifications framework levels in collaboration with talent associations as well as K-12 and higher education representatives.

Map existing professional credentials overseen by groups such as the Professional Licensing Association and/or awarded by Indiana's colleges and universities to the Indiana qualifications framework.

Assess existing efforts to assign credit for prior learning and determine how that work can inform implementation of Indiana's qualifications framework.

Design Indiana's equivalent of the Vocational Baccalaureate, a one-year degree program that enables Swiss apprentices to enroll in three-year bachelor's degree programs following the completion of their VET program, building off existing programs such as the Indiana College Core.

PRIORITY THREE: DESIGN A LABOR MARKET-ALIGNED CAREER ADVISING SYSTEM

What We Learned:

In Switzerland, career advising and case management services are delivered by local entities that operate outside of, and in partnership with, schools and companies. National standards for advising, including the qualifications of career advisors, have been established by the federal government, and counselors train annually to ensure they have the most up-to-date and accurate data about available occupations and career pathways.

In Indiana, career advising is expected to be conducted by school counselors who are responsible for an array of other duties, from mental health support to substitute teaching and lunchroom monitoring. With a ratio of one school counselor for every 519 students[9] in Indiana, schools have limited capacity to provide in-depth career advising for each student. Moreover, there is little time in traditional middle school schedules for career exploration, making it even more challenging to support students making choices about high school schedules and next steps after high school.

iLab Indiana members believe a new approach must be designed for career advising, beginning with the launch of talent associations that can identify in-demand occupations and occupational pathways and develop apprenticeship curricula in partnership with educators and government. It should be noted that iLab High School Committee members believe there is a need to start designing a new approach to career advising as soon as possible so that schools can make any necessary changes to school schedules well in advance of the next school year and in anticipation of more apprenticeship opportunities becoming available for the 2025-26 school year.

As a next step, we established the iLab Indiana **Career Advising Working Group** to lead the following activities:

Conduct a deep dive on the Swiss career exploration and advising systems, and learn more about exemplary school-based career exploration/advising models in Indiana and elsewhere in the U.S.

Define the ideal state for career exploration and advising in Indiana.

Describe roles and responsibilities for schools, employers, and any other non-school entities the working group believes could provide additional career exploration and advising supports for students and families.

Map existing organizations and programs providing career exploration and advising within each county to help inform design of the ideal state.

Develop an implementation plan with a timeline and budget, aligned with the rollout of new apprenticeship opportunities by the iLab talent associations.

9 American School Counselor Association, Student-to-School Counselor Ratio 2022-2023.

PRIORITY FOUR: DEFINE CLEAR ROLES AND RESPONSIBILITIES

What We Learned:

As Switzerland's leaders worked to re-engineer the country's education and training system, they deliberately shifted from a fragmented, input-oriented governance structure to a coordinated, output-oriented governance structure. As part of this transition, the roles of government, employers, and educators were clearly defined.

A benefit to this shift is the system clearly defines the standards and expected outcomes for each actor in the system while providing room for implementation flexibility. This enables implementation variation by geography – for example, in urban versus rural communities – as well as by industry sector. Clearly defining standards and expected outcomes also enables consistent quality control, oversight of the system, and identification of the funding mechanisms. Once Switzerland made this shift, it established a national committee – consisting of fewer than 15 leaders from industry, education, government, and implementing bodies – that is led by the federal government and focuses solely on oversight of the VPET system.

During their program development, iLab members agreed that **Indiana's current work-based learning landscape is fragmented and input-oriented**. Members also agreed that organizing as one voice through the launch of talent associations will enable Indiana's employers to clarify the systems role they should play in the development and implementation of the professional pathway. Educators, too, will need time to clarify their roles, both at the K-12 and higher education levels.

As part of its work, the iLab's Governing Committee mapped all the private, public, and nonprofit entities engaged in work-based learning in Indiana. This exercise revealed that we have many actors engaged in often overlapping activities – for example, asking employers to offer work-based learning programs – and no clear roles or responsibilities. See just a few examples in the chart on the next page.

SECTOR	ENTITY	ACTIVITY
Government	Indiana Department of Education	• Graduation pathways/work-based learning • Diploma requirements
	Indiana Department of Workforce Development	• WorkOne Centers • Jobs for America's Graduates (JAG) • Adult apprenticeships
	Indiana Commission for Higher Education	• CTE programs • Career advising
Education	K-12 schools	• CTE programs • Youth apprenticeships and other work-based learning programs
	Colleges and universities	• Internships • Co-ops
Employers	Individual employers	• Employer-led work-based learning and training programs, sometimes in partnership with high schools, CTE centers, two- and four-year colleges, and/or the Registered Apprenticeship system
Intermediaries	Indiana Chamber of Commerce	• Work & Learn Indiana • EARN Indiana
	Central Indiana Corporate Partnership initiatives	• High school student programming • College student programming
	Workforce Investment Boards	• Youth apprenticeship programs • Career Advising

In addition, while many of these are excellent programs, they are not available in every region, and they serve a relatively small number of students, schools, and/or employers. Because work-based learning of any kind involves K-12 schools, colleges and universities, state agencies, and education and workforce intermediaries, employers might find themselves overwhelmed by requests for engagement from many directions.

iLab members will work over the next year to develop recommended roles and responsibilities and an overarching governance structure for each of the three main partners – government, employers, and educators – that will enable implementation of a coordinated, output-oriented governance system with clear standards and goals. The iLab will also develop recommended funding mechanisms to enable scale. For more, read **Funding Indiana's New Professional Pathway**. [Appendix B]

Additionally, the iLab will develop a communications and marketing strategy to create awareness of the new pathway, and recruit student, employer, and school participants.

Finally, the Governing Committee will work to develop recommended statewide standards for talent associations, given interest from other industries in developing a professional pathway starting in high school. The four industries that emerged as candidates during the June CEMETS Summer Institute for joining the iLab are:

- Information Technology (spanning all industries)
- Construction
- Sports, Entertainment & Hospitality
- Microelectronics

NEXT STEPS

The work of iLab Indiana will continue through 2026 to align with the start-up timeline for the talent associations, which is the first priority as Indiana moves toward developing a systematic professional pathway. By the end of 2026, each of the first four talent associations will be established and employers will have begun hiring students for redefined apprenticeship programs. The entire iLab will convene at least once annually, and each of the five iLab committees will meet quarterly. The ad hoc Qualifications Framework and Career Advising Working groups will meet more regularly with a goal of finalizing recommendations by early 2025. Once launched, the talent associations will engage in full-time activities and call upon iLab members as needed. They will provide periodic updates to both the Governing and Industry committees.

Other work includes the creation of a detailed project plan with intersecting timelines across the iLab committees, working groups, and talent associations. This detailed document will enable the iLab to identify and resolve conflicting timelines and ensure all efforts are coordinated toward the same objectives. Finally, the Governing Committee will work to finalize a communications toolkit that each iLab member can use to communicate about the iLab, its progress, and the new professional pathway more broadly.

Interested leaders from education and industry who would like to join the iLab can contact iLab@RMFF.org to learn more.

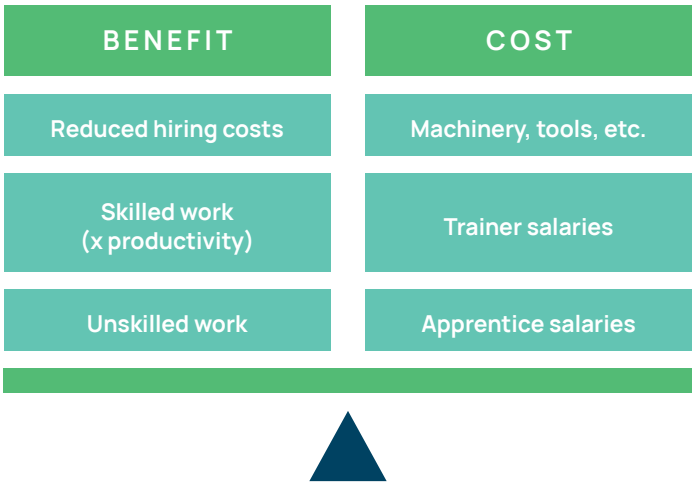
APPENDIX A: MAINTAINING FLEXIBILITY FOR STUDENT EXTRACURRICULAR ACTIVITIES

A central part of many American students' high school experience is their participation in extracurricular activities. For Indiana students who opt to participate in a youth apprenticeship program and want to participate in athletics or other non-academic activities, this should still be possible if high school credit requirements decrease in recognition of competencies gained during apprenticeships that meet high school credit requirements. For example, an apprentice who attends school twice per week and goes to the workplace three days per week would negotiate a schedule with their employer that allows the student to return to the school campus in time for the extracurricular activity to occur. This is similar to how Swiss apprentices and their employers structure the apprenticeship schedule for student-athletes. What's critically important is that a careful mix of classroom and workplace requirements is structured so that apprentices aren't taking on more overall workload than their peers who choose a college preparatory pathway. The Indiana Department of Education's current high school diploma redesign efforts, once they go into effect, will make this balanced mix between school-based and work-based learning possible for any student choosing to participate in an apprenticeship as well as extracurricular activities.

APPENDIX B: FUNDING INDIANA'S NEW PROFESSIONAL PATHWAY

CEMETS leadership provide in-depth economic analysis of the Swiss VPET system when teaching other countries about how the system operates. As noted earlier, in Switzerland, the government funds the classroom-related learning portion of all VET programs, along with career advising and case management supports for students. Industry funds all employer-related portions of VET programs, and also of PET programs. Specifically, industry associations and inter-company training centers are funded by membership dues and – in the case of training centers – on a per-apprentice basis. Employers pay the apprentice's training wage and fund other internal costs, such as human resources and training personnel who oversee apprentices for the duration of the VET program. The government does not provide incentives for employers to hire apprentices.

Why do Swiss employers fully fund their portion of VET implementation costs without government support? Simply put, because on average, the economic benefits outweigh the costs, as depicted in the figure below.



Source: Stefan C. Wolter, University of Bern & CESifo & IZA

On average, Swiss employers that hire and train apprentices realize an economic benefit that outweighs their costs. This is attributed to three critical factors: the wage paid to apprentices, the duration of the apprenticeship, and the amount of time spent by the apprentice in school versus on the job. Apprentices are paid a progressively higher training wage by employers and are not eligible for market-based salaries until they complete their apprenticeship and are hired by an employer. This below-market wage helps offset the cost by employers to fund the industry association and inter-company training center functions. The apprenticeship duration is uniform by occupation and is either three or four years in duration. This ensures the apprentice has time to become more productive by the end of the apprenticeship, offsetting their lack of skills or knowledge at the start of the apprenticeship. Finally, the number of days apprentices spend at the workplace versus in school is a critical factor in their productivity. On average, apprentices spend two days per week in school and three days at the workplace or the inter-company training center for the first two years of the apprenticeship. By the third year, apprentices spend one day per week in school and four days per week in the workplace. Some apprenticeships extend for a fourth year due to the technical nature of the occupation (e.g., manufacturing and IT).

As Indiana begins to build the functional capacity that will be required to operate a statewide youth apprenticeship system operating at scale, we are keeping these lessons from Switzerland at the forefront of our design efforts. However, we also recognize that – in order to supercharge our system-building efforts – upfront investments in some elements of the system from a combination of the public sector and philanthropy will be required. We believe this upfront investment is best directed toward establishing talent association and inter-company training center capacity, toward helping schools adapt their curriculum to align with the needs of occupations selected by the talent associations, and toward establishing a statewide, labor market-aligned career advising system. Below are the sources of funding we believe will be required as Indiana expands VET programs statewide.

Functional Capacity	Short-Term Funding Source	Long-Term Funding Source
Talent Associations	Combination of public, private, and philanthropic dollars	Industry
Inter-Company Training Centers	Combination of public, private, and philanthropic dollars	Industry
Labor Market-Aligned Career Advising System	Combination of public and philanthropic dollars	Government
VET Classroom Curricula	Combination of public, private, and philanthropic dollars	Government

APPENDIX C: SWITZERLAND'S NATIONAL QUALIFICATIONS FRAMEWORK FOR VPET QUALIFICATIONS *(ONLY TWO LEVELS LISTED)*

Level	VPET Type	Knowledge	Skills	Competencies
Level 4	**Federal VET Diploma (3- and 4-year apprenticeship, or VET program)**	**Knowledge:** Have advanced specialist knowledge of the field of work or learning and general education. They must be able to acquire subject-specific knowledge independently. **Understand:** Understand interrelationships in the specific work or learning context or industry as well as from thematically related subject areas and be able to explain them in their own words.	**Procedural Skills:** Be able to recognize tasks in a specialist area. Be able to implement tasks based on operational specifications or by applying known problem-solving strategies. **Sensorimotor Skills:** To solve fairly difficult tasks in familiar situations from a specialist area, be able to use specialist aids and instruments based on the operational specifications in accordance with regulations or with the help of known methods or tools. Be able to use basic means of communication.	**Professional Skills:** Through practical work experience, the knowledge and skills required at this level ensure the smooth running of your own work processes in the company. Work can be carried out independently. Routine work by other people can be supervised. **Personal Skills:** *Self-competencies:* Being able to apply the required knowledge and skills in a specialist area largely independently. Being able to take responsibility for clearly defined tasks within the specialist area and meet changing requirements. *Social Skills:* Being able to adapt behavior to the situation and the needs of others, to act in a team-oriented manner, and to communicate information from the specialist field orally and in writing in an appropriate form. **Leadership Skills:** Being able to introduce workers to a specific task in a work context.

Level 6	**Advanced Federal Diploma of Higher Education (PET program)**	**Knowledge:** Have advanced specialist knowledge of all relevant areas of work and an extended general education. They must also be able to independently acquire subject-specific and interdisciplinary knowledge. **Understand:** Understand connections within or outside the specific work context or industry and link them to thematically related specialist areas.	**Procedural Skills:** Be able to recognize, analyze and evaluate complex tasks in a specialty area. Be able to implement tasks based on operational specifications or by applying known problem-solving strategies. **Sensorimotor Skills:** Being able to prepare and use subject-specific aids and instruments based on suitable and known methods or tools appropriately to solve difficult tasks in various situations from specialist areas. Be able to use means of communication appropriately and present information from the subject area.	**Professional Skills:** The knowledge and skills required at this level lead to the smooth running of one's own work processes and to strategic results in the company through a wide range of practical professional experience. The work performed can take the form of independent and strategic collaboration as well as consulting activities. Complex technical activities and projects can be supervised and responsibility for decisions can be taken. **Personal Skills:** *Self-competencies:* Being able to independently apply the required knowledge and skills in a subject area and thematically related subject areas. Be able to take responsibility for tasks and processes within the entire subject area and meet changing requirements. *Social Skills:* Being able to reflect on and determine one's own role and the role of the other person and to behave responsibly in dealing with others, to act in a team-oriented manner and to communicate information from the subject area orally and in writing in an accurate, understandable, and appropriate manner. **Leadership Skills:** Being able to manage, take responsibility for, and develop employees in several areas of the work context.

Source: State Secretariat for Education, Research and Innovation (SERI): https://www.sbfi.admin.ch/sbfi/en/home/education/mobility/nqf-vpet/das-vorgehen-zur-einstufung.html

APPENDIX D: ILAB COMMITTEE FOCUS AREAS

COMMITTEE	FOCUS QUESTIONS
Governing	Identifies industries of focus based on labor market demand Sets the 10-year, statewide youth apprentice role Develops the recommended governance structure
Industry	Identifies occupations for youth apprenticeship Defines the apprenticeship experience Sets standards and curriculum for education and training Supports career exploration and advising to students
High School	Enables flexible schedules for youth apprentices Develops transportation recommendations and provides transportation when feasible Enables career exploration beginning in 8th grade
Higher Education	Partners with talent associations to create transition mechanisms between the professional and college pathways
Policy	Enables student and employer participation in youth apprenticeship Enables development of transition mechanisms between the professional and college pathways

CEMETS iLab Indiana members as of September 10, 2024.

GOVERNING COMMITTEE

Co-Chairs

- David Becker, First Internet Bank
- Claire Fiddian-Green, Richard M. Fairbanks Foundation

Members

- Mike Ash, Fifth Third Bank
- Senator Rod Bray, President Pro Tempore of the Indiana Senate
- Fred Cartwright, Conexus Indiana
- Jeff Harrison, Citizens Energy Group
- Representative Todd Huston, Speaker of the Indiana House of Representatives
- Dr. Katie Jenner, Indiana Secretary of Education
- Melina Kennedy, Central Indiana Corporate Partnership
- Chris Lowery, Commissioner of Indiana Commissioner for Higher Education
- Matt Mindrum, Indy Chamber
- Dennis Murphy, IU Health
- Mario Rodriguez, Indianapolis Airport Authority
- Vanessa Green Sinders, Indiana Chamber of Commerce
- Amber Van Til, Indiana Bankers Association
- Pamela Whitten, Indiana University
- Vince Wong, BioCrossroads

Committee Staffing

- Erica Viar, Ascend Indiana

INDUSTRY COMMITTEE

Co-Chairs

- Mike Ash, Fifth Third Bank
- Dennis Murphy, IU Health

Industry Representatives

Banking

- Scott Bove, Star Financial Bank
- Kyra Clark, Lake City Bank
- Jason Eckerle, PNC Financial Services Group
- David Findlay, Lake City Bank
- Juan Gonzalez, Central Indiana, KeyBank
- Steve Harris, First Merchants Bank
- Annie Hills, Old National Bank
- Carrie Houston, The National Bank of Indianapolis
- Lucia Mar, Bank of America
- Ann Merkel, The National Bank of Indianapolis
- Christina Moungey, JP Morgan Chase
- Lorraine Ortiz, First Internet Bank
- James Ryan III, Old National Bank
- Jake Sappenfield, First Financial Bank
- Robert Senz, PNC Financial Services Group
- Michael Stewart, First Merchants Corporation and First Merchants Bank

Insurance

- Lisa Cameron, Indiana Farmers Insurance
- Scott Davison, OneAmerica
- Drew Dean, Burns & Wilcox
- Anne Duncan, Arlington/Roe
- Brittany Graman, Gibson Insurance
- Todd Jackson, McGowan Insurance Group
- Sheila Kemp, FCCI Insurance Group
- Greg Kramer, FCCI Insurance Group
- Jon Loftin, MJ Insurance
- Dean Mayfield, Mayfield Insurance
- Amanda Pennington, UnitedHealth Group
- Andy Roe, Arlington/Roe
- Jim Roe, Arlington/Roe
- Karin Sarratt, OneAmerica
- Kim Thomas, OneAmerica

- Maggie Watkins, Shepherd Insurance
- Kevin Wheeler, Angela Adams Consulting

Health Care

- Laura Barnett, Hancock Health
- Karly Cope, Community Health Network
- Mario Ellis, Beacon Health System
- Melora Ferren, IU Health
- Nancy Foster, Ascension St. Vincent
- Kreg Gruber, Beacon Health System
- Lisa Harris, Eskenazi Health
- Christia Hicks, Eskenazi Health
- David Hyatt, Riverview Health
- Dena Jacquay, Parkview Health
- Erin LaCross, Parkview Health
- Melinda Lebofsky, Deaconess Health System
- Michelle Mahaffey, Community Health Network
- Tammi Nash, Riverview Health
- Mary Schabes, Beacon Health System
- Heather Schoegler, Parkview Health
- Michael Schroyer, Baptist Health Floyd
- Christopher Scott, Eskenazi Health
- Dr. Adrienne Sims, Indiana University Health
- Mary Jo Smith, Franciscan Alliance
- Jason Troutwine, Reid Health
- Ram Yeleti, Community Health Network

Life Sciences

- Bridget Boyle, Roche Diagnostics
- Kelly Copes-Anderson, Eli Lilly & Company
- Travis Christman, Medartis
- Laurent Ellenrieder, Medartis
- Babette Gann, Zimmer Biomet
- Erin Hughes, Medartis
- Maurice Taylor, Eli Lilly and Company

Advanced Manufacturing

- Nicole Adamopoulos, BP
- Kevin Ahaus, Ahaus
- Scott Brand, Subaru Indiana
- Chris Brunner, Hitachi Astemo Greenfield, LLC
- Julia Buckley, Reliable MicroSystems, LLC
- Brendan Cahill, PTG Silicones
- Fred Cartwright, Conexus Indiana
- Chris Clark, PMC SMART Solutions
- Andrew Davies, Rolls-Royce North America
- James Deffendall, Plastic Recycling, Inc.
- Scott Farrisee, Polygon Company
- Brooke Firestine, Rolls-Royce North America
- Fiorella Gabetta-Gibson, Allison Transmission
- Katrin Gerig, Telamon
- Chad Goldsmith, Toyota Manufacturing North America
- Dannette Howard, Cummins, Inc.
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- Sarah Johnston, Sanko Gosei Technologies USA
- James Keilman, URSCHEL
- Amy Ketcham, Tsuchiya Group North America
- Shawn Maple, Global Plastics, Inc.
- Mark Murphy, PRD, Inc.
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- Nicole Otte, Endress+Hauser USA
- Rose Pedreros, George Utz
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- Crispin Taylor, INDEX Corporation
- Marissa Ulrich, Patrick Industries
- Toby Walsman, Batesville Tool & Die
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- Dan Becker, Danco Roofing Services
- Thomas Dapp, Gradex Inc.

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- Claire Berger, Indiana Department of Workforce Development
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- Bryce Carpenter, Conexus Indiana
- Fred Cartwright, Conexus Indiana
- Gregory Deason, Purdue Research Foundation
- Allyn Decker, OrthoWorx Indiana
- Tony Denhart, Indiana Economic Development Corporation
- Steve Duff, Big I (Independent Insurance Agents Association)
- Lorenzo Esters, Indianapolis Foundation
- Trevor Foughty, Heartland BioWorks
- Larry Fuesler, Southern Indiana Education Center (SIEC)
- Libby Gardner, Professional Insurance Agents of Indiana (PIA)
- Sandy Gray, NAIFA
- Lyndsey Grayson. BioCrossroads
- Andrew Kossack, ARI
- Rod Lasley, Indiana Bankers Association
- Gus Linde, Eastern Indiana Works (EIW)
- Kimberly Mau, Ivy Tech
- Michi McClaine, Regional Opportunity Initiatives
- Matt Mindrum, Indy Chamber
- Cheryl Morphew, City of Crawfordsville
- Richard Paulk, Indiana Dept. of Workforce Development
- Chris Price, Indiana Construction Roundtable Foundation
- Brad Rhorer, Ascend Indiana
- Tony Robinson, Manufacturers Association Plastics Producers (MAPP)
- David Rosenberg, Indiana Economic Development Corporation
- Erin Serafino, OrthoWorx Indiana
- Vanessa Green Sinders, Indiana Chamber of Commerce
- Jay Styles, EmployIndy
- Dennis Trinkle, TechPoint
- Amber Van Til, Indiana Bankers Association
- Bob Vitoux, OrthoWorx Indiana
- Rick Wajda, Indiana Builders Association
- Tony Waterson, Southern Indiana Works (SIW)
- Marty Wood, Insurance Institute of Indiana
- Vince Wong, BioCrossroads

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- Kent Kramer, Goodwill of Central & Southern Indiana

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- Jennifer Barrett, Richland-Bean Blossom Community School Corporation
- Adam Barton, Eastern Hancock Community School Corporation
- Tara Bishop, Perry Central Community Schools
- Dr. Jeff Butts, MSD Wayne Township
- Rebecca Daugherty-Saunders, MSD Wayne Township
- Betsy Delgado, Goodwill of Central & Southern Indiana
- Jody French, Perry Central Community Schools
- Dr. David Hoffert, Warsaw Community Schools
- Andrea Huff, Barr-Reeve Community Schools

- Dr. Aleesia Johnson, Indianapolis Public Schools
- Dr. Lisa Kendall, Concord Community Schools
- Paul Ketcham, Batesville Community School Corporation
- Melissa Kissling, Warsaw Community Schools
- Robert McDermott, Duneland School Corporation
- Chip Pettit, Duneland School Corporation
- Dr. George Philhower, Eastern Hancock Community School Corporation
- Tim Pletcher, Baugo Community Schools
- Michele Riise, School City of Hammond
- Kerchell Rolling, School City of Hammond
- Byron Sanders, Baugo Community Schools
- Dr. Jerry Sanders, Richland-Bean Blossom Community School Corporation
- Emily Tracy, Brown County Schools
- Dr. Keanna Warren, Purdue Polytechnic High Schools
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- Chris Brunson, Indiana Non-Public Education Association
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- Lisa Deck, Purdue
- Brian Disney, Catholic Schools Archdiocese of Indianapolis
- Brittany Dougherty, Southern Indiana Works
- Nick Duvall, TeenWorks
- Patrick Haney, East Central Education Center
- Tony Harl, CHE
- Todd Hurst, Institute for Workforce Excellence, Indiana Chamber of Commerce
- Sarah Koontz, CareerWise Elkhart County
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- Sara Nicodemus, Central Indiana Career & Technical Education Co-Op
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- Sean Huddleston, Martin University
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- Senator Jeff Raatz, Chair, Education and Career Development Committee, Indiana Senate District 27

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- Josh Garrison, Indiana Commission for Higher Education
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- Danny Kelley, Indiana House Republicans
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- Tina Peterson, Regional Opportunity Initiative
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