

State of Michigan
Labor and Economic Opportunity, Workforce Development (LEO-WD)
Michigan Industry Cluster Approach 3.0

Proposal: Grand Traverse Information Technology (IT) Employer Collaborative

PROPOSAL RESPONDENT INFORMATION:

Organization Name: **20Fathoms**
Contact Name: **Keith E. Kelly**
Title: **Program Manager – Workforce Development**
Address: **10850 E Traverse Hwy Ste 4400
Traverse City, MI 49684**
Prosperity Region: **Region 2: Northwest**
Phone: **231-392-1172**
Email: **keith@20fathoms.org**

GRANT RECIPIENT (Individual with Signatory Authority and Responsibility)

Legal Organization Name: **Traverse City Center for Entrepreneurship**
Federal Employer Identification Number (FEIN): **82-4116553**
Universal Numbering System (DUNS): **081244934**
Contact Name: **Eric Roberts**
Title: **Executive Director**
Address: **10850 E Traverse Hwy Ste 4400
Traverse City, MI 49684**
Prosperity Region: **Region 2: Northwest**
Phone: **847-732-9464**
Email: **ericroberts@20fathoms.org**

STRATEGY DESCRIPTIONS:

As Michigan's digital economy expands, information and data processing are driving growth. Legacy and startup companies leverage digital technologies by employing tech professionals like developers who can adapt, create, and innovate. Workforce programs must scale to meet increasing demand for these high-wage, high-skill, and high-growth professions.

The 20Fathom's MICA 3.0 proposal is a continuation of our successful MICA 2.0 project which was designed to address challenges of the "last mile of the talent pipeline." We not only created regional IT talent assets, but also demonstrated innovation and Lean/Agile process. During MICA 2.0, we engaged local world-class experts to deliver skills-upgrade events to over 250 participants; built sustainability using low-cost online content; motivated new learners using IoT Greenhouse systems; leveraged the Cloud to deliver highly technical workshops; scaled our *tccodes* coding model to include *tccyber* cybersecurity curriculum; enhanced secondary education through free courses, train-the-trainer workshops, and internships; and layered career and employment services.

We have convened a learning community of employers and professionals able to drive talent initiatives throughout our IT talent pipeline. Our MICA brands, *tccodes* (software development) and *tccyber* (cybersecurity), are well established, and our community is poised to scale our solution supporting new technologies like DevOps, machine learning, and AI while also expanding knowledge and resources to secondary education. But this next iteration requires MICA 3.0 support and funding.

Applicant: 20Fathoms, the local non-profit tech incubator, will continue as MICA lead for our collaborative. Keith E. Kelly created the MICA 2.0 project and will continue as convenor. He is an experienced technology instructor and is skilled in Agile processes that enable employers to define success and deliver results. Additional staff include talent acquisition specialist Erich Wuhrman, and communication specialist Keri Amlotte. 20Fathoms will provide classroom, IT infrastructure, hardware, and office spaces.

Employers: ELC coding initiatives are led by experts including Derek Smith – Aunalytics and Justin Gauthier – Brightly. Cybersecurity is led by Shaun Bertrand – CBI and others from our local ISSA chapter. A data analytics community will be added with leadership by Jacob Miller of IBM and Monica Trevino of the_league.Ai. These professionals will also serve as champions and leaders of the ELC.

Secondary school connections: The ELC will build on secondary education successes and relationships established during MICA 2.0 to inform, motivate, teach, and connect both students and instructors. Enhanced career awareness and guidance will result from increased partnerships with regional MiSTEM and Newton's Road organizations. Hands-on experiences delivered to Traverse City Area Public Schools and Elk Rapids Schools will expand to others and include new instruction in data technologies provided by our new the_league.Ai partner. Finally, both instructors and students will connect to professionals through expanded internships, training workshops, and social events.

Michigan Works!: Northwest Michigan Works! will expand the ELC with additional employers. They will assist in determining local needs, connecting resources, and

promoting solutions. Essential functions supporting the ELC include intake, eligibility, record-keeping, and expanding ELC resources by accessing braided funding.

Post-secondary: Additional linkages to post-secondary institutions including Northwestern Michigan College (NMC) and Michigan Tech (MTU) will form. A new MTU degree located in Traverse City will heighten awareness and create growth. The ELC will continue to leverage content from national partners such as the Center on Rural Innovation (CORI) and Cisco to build scalable and sustainable learning solutions.

Additional employers and other partners: Innovative school-to-work opportunities including micro internships, startup, and talent connections will be facilitated by Ryan Beaver – FAME and Jennifer Szunko – TCNewTech. Local venture capital groups will support innovation and startup events. Traverse Connect, a local economic development organization, will attract partner companies and local professionals.

SCOPE OF WORK

This project addresses the many challenges inherent in IT workforce development and regional economic development. Expected outcomes are a skilled IT workforce with family-sustaining jobs that meets a crucial need in the success of our region's emerging tech industry. Using MICA 3.0 funding, the ELC will build on successes of 20Fathoms' MICA 2.0 effort to offer career pathways to high-wage positions, deliver services to the underrepresented, build a pipeline of talent for local employers, and increase regional economic prosperity.

The existing ELC will begin this renewed initiative by **organizing for employer leadership and collaboration**. Led by experts from member employers and supported by 20Fathoms, the ELC will regularly assess initiatives and refine strategies based on talent attraction, retention, and development initiatives. The ELC will also **evaluate progress and target continuous improvement, using ELC metrics**. The full membership will review a dashboard and determine areas for improvement. This information will be used to market, promote, and replicate solutions created as a result of the collaborative and the partnerships formed, supporting long-term sustainability built on current successes and finalized early in the grant period. As described below, the scope of work for this project aligns closely with ELC priorities, inclusivity, and statewide partnership initiatives.

Demand Planning: In order to guide and direct our efforts, ELC members and the 20Fathoms Talent Acquisition Specialist will engage in **projected job demand analysis** so that our partners can prepare adequate responses to need. Because the initiatives will be dictated by local employer demand projections, the first step will be to increase the ELC membership to ensure that a realistic depiction of the regional need and talent flow is captured. New member recruitment will be managed by employer champions, 20Fathoms marketing staff, Traverse Connect, and Networks Northwest/Northwest Michigan Works! Additionally, a **Talent Flow Analysis** will be conducted following the convenor's training in Talent Pipeline Management, with the assistance of the talent acquisition specialist and led by the ELC.

Competency, Credential, and Communication Requirements: Employers cite a need for talent as their number one priority, yet the constantly evolving industry makes their exact skill needs difficult to define. In order to keep up with the changes, education

and training must be refreshed and aligned with projected demand. Our demand planning work will include **identifying specific skills, competencies, and credentials** needed for the projected new hires. The ELC convenor at 20Fathoms will lead these discussions, ensuring that appropriate partners (MiSTEM, Newton's Road, Northwest Michigan Works!, NMC, and MTU) are present to adequately communicate the details needed for creating workforce development programs. Once this is completed, the ELC will produce a cadence of high-quality, low-cost skill-upgrade experiences -- the signature events for *tccodes* and *tccyber*. Monthly offerings will be communicated through digital communications, public relations, partner outreach, and event marketing including at the monthly TCNewTech pitch event. Subscribed employers and individuals will have early registration options. In order to provide inclusive and accessible programming that meets participants where they are, sessions will feature high-value content provided by our area subject matter experts coupled with low- or no-cost online content from trusted providers such as Cisco, LinkedIn, and Udemy. Learning will be supplemented by community nights that provide cross-curricular sharing sessions on new and emerging topics.

Upskilling of Incumbent Workers: The ELC project will provide high-value, short-term **reskilling and upskilling** opportunities for tech workers offering a career pathway for lower-level staff. Due to the shortage of experienced workers, companies like RJG are filling positions with junior-level talent and significant upskilling must be built into the workday for retention and promotion to occur. The ELC will **inventory skills, match companies, and form cross-company cohorts** that will progress through mentorships, skills-upgrading events, and potentially move on to training programs. Benefits include not only economies of scale, but also technical sharing, community building, and vital social interactions. The ELC will also revisit the cohort skill-sharing model of MICA 2.0.

Development and Expansion of Talent Pipelines

Training opportunities: Opportunity for professional development is a frequently identified major consideration when accepting an IT position. Advances in technology mean that constant learning is required and both the employer and professional understand the risks of becoming irrelevant. Hosted by the 20Fathoms tech incubator, the ELC is well-positioned to build **training opportunities** that deliver highly technical, emerging content to area professionals while also providing community and professional connections with opportunities for interaction, growth, and work-life balance. Credentials may include Python Essentials, Cisco CyberOps, and DevNet Associate. As a next step, best practices from the MICA 2.0 *tccodes* achievement provide a roadmap for the scaling of *tccyber* and the introduction of new data analytics, machine learning (ML), and artificial intelligence (AI) content. In addition, the ELC will continue its work with post-secondary education to identify and address gaps in school-to-work transitions. Our subject matter experts will assist local educators to identify requirements and assist with staff training. The ELC will partner with Newton's Road to convene employers and educators from NMC and MTU to build a potential talent pipeline for entering the MTU computer science program.

Career awareness: The ELC project will target secondary education and the broader community for increasing awareness in tech careers. First, a major deliverable of the

ELC is to use our professional community to impact **career awareness** in secondary education. Local experts will engage with young learners and teachers to inform and inspire, exposing them to the broad range of IT careers. A self-directed introduction to cybersecurity course will be open to all area teachers and students. This work will result from the collaboration with MiSTEM and Newton's Road. Secondly, tccodes and tccyber workshops for adults will build community awareness of technical content and career opportunities.

Career exploration: Coaching services will guide learners in the selection of pathways including community college, new university programming, workforce and skill development experiences, and industry credentialing. Skills-upgrade events will allow participants to explore emerging fields including data analytics, machine learning, and artificial intelligence. The ELC will also work with community partners like Traverse Connect to provide **career exploration** opportunities through their Creative Coast project which promotes the Grand Traverse region and provides a forum for returning professionals and new recruits alike to connect, put down roots, and improve job retention. ELC employers will better collaborate with these efforts to draw new talent to the area and support their ongoing professional development.

Career pathway development: A proven method for **career pathway development** is internships. While there are challenges in providing internships for high-demand areas like coding, the ELC will focus on leveraging the effectiveness of an internship experience without pulling valuable resources from each company. We will iterate on a coaching model created by Ryan Beaver of FAME during MiCA 2.0, creating a micro-internship solution that will scale across companies. Additional internship programs will be explored, such as the STEMForward program. The ELC will provide advising and coaching to all participants to identify those individuals available for deeper learning. The ELC will partner with Northwest Michigan Works! to transition these learners into longer-term **training programs that result in certification**. Credentials will be assigned through partners like Cisco Network Academy and new micro-credentialing options will be leveraged. Registration in workforce development programming will result in braided funding covering the higher costs of educational programs. In addition, the ELC will collaborate with university partners on school-to-work transitions through an annual internship fair. The ELC will also participate in the annual MiCareer Quest hosted by Northwest Michigan Works! A culture of continuous learning will evolve to focus on solving the career pathway challenges of IT workforce development.

Inclusion Plans: Currently, IT professionals are generally young, white, and male which creates a barrier to entry for others. However, there exists an opportunity to diversify the workforce through intentional and directed measures. Expanding diversity and inclusion efforts will be at the forefront of the ELC's strategy and planning for **recruiting underrepresented participants and engaging both employers and jobseekers**. This will be accomplished through collaboration with a variety of partners: the_league.Ai will connect the ELC to youth, Northwest Michigan Works! will connect to low-income individuals, and Arrowhead Incubator will support connections to Native American communities. The ELC is also committed to expanding racial and gender diversity in the local tech community and will consult with established internal and

external affinity groups including Traverse City's Women in Tech and Traverse Connect's Diversity, Equity, and Inclusion Committee to help achieve this goal.

Development and implementation of statewide ELC partnership to address the workforce needs of the industry: We look forward to participation on the statewide, employer-led IT council, sharing our lessons-learned and innovative solutions, while also learning from others.

PROJECT WORK PLAN

Project Goals and Deliverables:		
Goal #1: ELC – Review, Plan, and Execute – Agile Management		
Deliverable(s)	Timeframe	Deliverable Dates
• Quarterly ELC Leadership Meeting	Immediate	Each Quarter
• Monthly – Plan and Execute – Sector Leads	Immediate	Each Month
• Integrate Diversity, Equity, and Inclusion committee at Traverse Connect	Q1 - 2022	Q2 - 2022
• Develop and implement sustainability plan	Q1 - 2022	Q1- 2023
Implementers(s)		
Keith E. Kelly, 20Fathoms – Program Manager; 20Fathoms Executive Director and board Sector Leads, Derek Smith, Ryan Beaver, Justin Gauthier, Shaun Bertrand, Jacob Miller		
Goal #2: Continue and Expand - Short-term Reskilling/Upskilling Workshops		
Deliverable(s)	Timeframe	Deliverable Dates
• Expansion and refinement of <i>tccodes</i> services/events	Immediate	Ongoing
• Build <i>tccyber</i> employer collaboration and content	Immediate	Q3-2022
• Create new data, machine learning, AI segment.	Q1-2022	Q3-2022
Implementers(s)		
Keith E. Kelly, 20Fathoms – Program Manager		
Sector Leads, Derek Smith, Ryan Beaver, Justin Gauthier, Shaun Bertrand, Jacob Miller		
Keri Amlotte, 20Fathoms –Communication/Marketing		
Goal #3: Increase Depth – Link Training, Education, and Credential Attainment		
Deliverable(s)	Timeframe	Deliverable Dates
• Leverage online, low-cost content supporting certification	Q1 - 2022	Q3 - 2022
• Integrate Michigan Works! intake, record-keeping, and funding	Q1 - 2022	Q3 - 2022
• Advise and support clients accessing college, university, and industry credential programming	Q3 - 2022	Q1 - 2023
Implementers(s)		
Keith E. Kelly, 20Fathoms; Rob Dickinson, Networks Northwest; Program providers – NMC, MTU, Cisco		
Goal #4: Increase Flow – Improve Talent Pipeline Connections (end to end)		
Deliverable(s)	Timeframe	Deliverable Dates
• Convene ELC employers and pipeline service providers	Q1 - 2022	Q2 -2022
• Quantify demand and identify competencies	Q2 - 2022	Q3 -2022
• Map pathways and talent flow, identify gaps, and respond	Q4 - 2022	Q1 -2023
Implementers(s)		

20Fathoms; Traverse Connect; Networks Northwest; Education – secondary, post-secondary Goal #5: New Services – ISSA Linkage, New Data/Machine Learning/AI, BS Computer Science in Grand Traverse		
Deliverable(s)	Timeframe	Deliverable Dates
• Iterate tccyber approach using ISSA and Cisco content	Q1 - 2022	Q3 - 2022
• Form data segment group. Deliver analytics, ML, and AI	Q3 - 2022	Q1- 2023
• Connect with launch of BS Computer Science in Traverse City (MTU)	Q1 - 2022	Q1 - 2023
• Form cross-company learning cohorts (RJG)	Q3 - 2022	Q1 – 2023
Implementers(s)		
Shaun Bertrand, CBI/ISSA; Jacob Miller, IBM; Monica Trevino, <i>the_league.Ai</i> ; Jay Meldrum, MTU; Bill Myers, Newton's Road; Doug MacDonald, RJG		
Goal #6: Impact Career Awareness		
Deliverable(s)	Timeframe	Deliverable Dates
• Promote initiatives and services via Traverse Connect and TCNewTech	Ongoing	
• Enhance secondary career guidance delivered by Newton's Road and MiSTEM	Q2 - 2022	Q2- 2022
• Expand high school instructor training and student internships	Q4 – 2022	Q1 – 2024
• Connect experts to learners creating clear visions of IT	Q1 – 2022	Q1 – 2024
Implementers(s)		
Jennifer Szunko, TCNewTech; Barb Termaat, Newton's Road; Drea Weinger, MiSTEM; Clydene Stangvik, Cisco Network Academy		
Goal #7: Market, Promote, and Replicate		
Deliverable(s)	Timeframe	Deliverable Dates
• Promote services, innovation, and success locally	Ongoing	Ongoing
• Share models and success in Michigan	Q3 - 2022	Ongoing
• Leverage national resources and channels	Q3 - 2022	Ongoing
Implementers(s)		
Keri Amlotte, 20Fathoms; LEO IT Council and IT sector lead; Mark Rembert, CORI; Clydene Stangvik, Cisco Network Academy		

STAFF COMPETENCE, EXPERIENCE, AND CAPACITY

Our ELC subject-matter-experts coupled with the 20Fathoms staff along with area workforce and economic development organizations provide the resources to create innovative and sustainable solutions given the challenges of IT workforce development.

Traverse City is home to world-class professionals. This talent is not only best-in-class but also brings the assets of a Midwestern micropolitan community. Experts and employers are ready to share challenges and solutions. New professionals are attracted by not only career opportunities but the regional lifestyle as well.

The program manager, Keith E. Kelly, has engaged in solutions for training and talent development for more than ten years and has developed long-term collaborative relationships with many professionals, employers, and community organizations. He has authored and successfully executed multiple workforce grants from both workforce

development and community college service units. He drove our MICA 2.0 project to completion despite the challenges of COVID. Kelly is committed to attending the TPM Academy during the grant period.

Talent acquisition services are led by Erich Wuhrman. He is a 20+ year talent recruitment and human resources veteran, specializing in the placement of tech professionals. Most of his time will be dedicated to filling the demands for software professionals and his national searches to fill area job postings provide real-time demand, job requirement, and salary knowledge. Additionally, partnerships with external organizations such as Networks Northwest, Center on Rural Innovation, ISSA, and Cisco provide informed perspectives on emerging job and wage requirements.

A crucial component of any community project is to make the work and the results public. Keri Amlotte, Director of Marketing, oversees public relations and external communications, including multiple newsletters and digital communications outlets. MICA 2.0 work was featured in local news and journals including Ann Arbor's Chronicle Tech News. Success stories were distributed nationally and on social media resulting in collaboration with very large entities such as the Center on Rural Innovation and Cisco.

Our emerging tech and startup community has many community organizations providing operational and programming support. Specialized secondary programming is provided by both MiSTEM and Newton's Road. Traditional educational programming is delivered by MTU and NMC. Workforce and economic development service are sourced by Traverse Connect and Networks Northwest. Finally, startup and entrepreneurship are supported by TCNewTech and investors like Northern Michigan Angels.

As the area's sole tech incubator, 20Fathoms has the capacity to convene these organizations and stakeholders to not only align traditional services but use our capacities of innovation to create new solutions. For example, during a MICA 2.0, a career changer used our training, coaching, and career counseling services to secure a remote junior developer position. Leveraging online resources and our community solution, he secured a salary of \$66K with minimal out-of-pocket expense.

Finally, 20Fathoms has the Board of Directors and Executive Director, Eric Roberts, with extensive business credentials that will guarantee an employer-focused solution while providing the required wrap-around fiduciary, facilities, and staffing resources. Additionally, 20Fathoms board member Janie McNabb is a workforce development veteran with more than 20 years of experience in sector-based approaches. Agile management and iterative processes will ensure that if environments change as with COVID during MICA 2.0, responsiveness is maintained and significant return-on-investments produced.

PERFORMANCE MEASURES AND PROPOSED OUTCOMES:

This project distinguishes between skills-upgrade **events** and training **programs**. A skills-upgrade **event** is a short-term workshop or class with minimal registration process and cost. Events deliver technical content to professionals or introductory experiences for the community. A training **program** is longer term, requires registration, incorporates in-depth online content, leverages braided funding, and results in a credential.

1. The following proposed outcomes will accurately measure the performance of the project due to their emphasis on employer/stakeholder involvement and participant learning, which are the primary goals of the ELC. Additional performance indicators may

be identified by the ELC as needed. 2. Baselines are provided below the chart where applicable. 3. Proposed outcomes are achievable yet ambitious because they build on the success of the MICA 2.0 effort but allow for realistic expansion. 4. ELC data experts will generate a KPI dashboard enabling efficient data entry and reporting to all stakeholders. Methods for data collection will include a new iteration of the MICA 2.0 database, the Individual Participant Form, and intake/eligibility performed by Northwest Michigan Works! using the One-Stop Management Information System for training program participants.

PERFORMANCE MEASURES	PROPOSED OUTCOMES
LEO-WD Established Performance Measures	
Total number of employers involved in the ELC	50
Total number of other stakeholders/partners involved in the ELC (i.e., community-based organization, educational training providers, industry associations, etc.)	12
Total number of participants enrolled in training programs	75 of 300
Total number of participants completing training	60 of 75
Total number of credentials/certifications earned by participants for high-wage, high-demand occupations in the region	60
Total number of participants unemployed/underemployed prior to training	60 of 300
Total number of participants employed as a result of training completion	12 of 60
Total number of participants retained in employment after six months	12 of 12
Total number of participants from underrepresented populations include youth, veterans, women, people of color, ex-offenders, and persons with disabilities.	180 of 300
Average dollar amount of participants' earnings increases annually as a result of new skill attainment(<i>sum of individual average per year</i>)	\$9920/person/yr

Participating employers are identified during registration for skills-upgrade events. This project reconnects the 38 employers of MICA 2.0 and expands to an employer count of over **50**.

Our partner list and letters show the variety of MICA 2.0 stakeholders engaged, including both local and national. Support letters range from a secondary STEM instructor to a national rural economic development organization. Additional connections beyond the **12** current partnerships will result as our ELC is promoted and value demonstrated.

Many will participate as a learner, an employer, or a leader. 20Fathoms' successes and promotion create traffic, leads, and event enrollment. Participant count will increase from the 250 of MICA 2.0 to over **300** with most attending multiple events. Marketing

and coaching will convert event participants into **75** training enrollments with **60** completers receiving at least one certification.

Unemployed/underemployed will be identified during event registration. A minimum of **60** individuals will be directed to partner services for program enrollment and access to braided funding. Innovative internship and career coaching along with 20Fathoms' placement services will generate **12** new hires with typical salary of \$40,000. Based on demand and quality, **all** will be retained after 6 months.

Of the 300 event participants, **180** will identify as underrepresented. Specialized programming will target youth and those who identify as woman. Existing collaboration with tribal communities will extend to included MICA services.

With an estimated 12 individuals who are unemployed acquiring employment due to newly acquired credentials, an annual salary of \$40,000 will be the full earnings increase. The remainder of the 60 individuals completing training (48) are estimated to receive a 4% increase on an average IT position wage of \$60,000 or \$2,400. The average increase of all 60 training completers is **\$9,920**.

BUDGET/BUDGET NARRATIVE:

Budget Detail: Grant Costs and Leveraged Dollars

Budget Detail		
Employer-Led Collaborative Development and Implementation Activities	Grant Costs	Leveraged Dollars
1. Salaries/personnel	\$166,250	\$321,593
2. Fringe /benefits	\$33,250	\$41,000
3. Travel	\$1,025	0
4. Supplies	\$3,000	0
5. ELC Staff and Member Training	\$1,200	0
6. Contractual Costs	\$10,000	\$27,800
7. Outreach/Digital and Print	\$5,275	0
8. Other (Rent, Hardware)	\$10,000	\$13,000
Employer-Led Collaborative Activities Sub-Totals	\$230,000	\$403,393
Training Activities	Grant Costs	Leveraged Dollars
1. Training program enrollments		\$135,000
Training Activities Sub-Totals	\$ 0	\$135,000
Administration (not to exceed 8%)	\$ 20,000	\$ 0
Total Budget	\$250,000	\$538,393

Budget Narrative:**Employer-Led Collaborative Development and Implementation Activities****1. Salaries/Personnel**

Grant funds will support 1 FTE to serve as convenor of the ELC at a rate of \$56,500 per year and 0.25 FTE at a rate of \$10,000 per year for project management for the 2.5 year grant period, totaling \$166,250.

Leveraged funds include the following:

- 20Fathoms staff will dedicate proportional FTEs to support the ELC, including 0.25 FTE marketing specialist, 0.5 FTE talent acquisition specialist, and 0.1 FTE executive director, totaling \$205,000 over the 30- month grant period.
- Five ELC member champions will commit an average of 5 hours per month, at an average value of \$50 per hour, totaling \$37,500.
- Three partner ELC members will commit an average of 5 hours per month, at an average value of \$28.54 (Independent Sector value of volunteer time), totaling \$12,843.
- Northwest Michigan Works! Career Advisor and Business Services Representative at 0.25FTE (\$10,000) each and Business Services Director at 0.1FTE (\$6,500) for 2.5 years totaling \$66,250.

2. Personnel Fringe Benefits

Grant funds will support 1 FTE to serve as convenor of the ELC with a fringe benefit package at 20% of salary costs, totaling \$33,250 for 2.5 years. Leveraged funds represent a 20% benefit rate for the 20Fathoms staff members included in the Leveraged Funds Salaries/Personnel line item.

3. Travel

Grant funds will provide travel for the convenor to attend Talent Pipeline Management training estimated at \$1,025 for mileage, hotel and accommodations.

4. Supplies

Grant funds will provide office supplies and materials for the convenor.

5. ELC Staff and Member Training

The convenor is committed to attending the Talent Pipeline Management training at a cost of \$1,200.

6. Contractual Costs

The ELC will contract for program development to support four skill focus areas: Full Stack Developer; Web Coding; Cybersecurity; and Data Analytics. A fifth focus area will connect programming to internships. Deliverables may include curriculum, skill upgrading activities, curation of online content, credential analysis, and speaking engagements. Contracts are estimated at \$100 per hour at 6 hours per week for 63 weeks totaling \$37,800. Grant funds will supply \$10,000 towards this total with the remaining covered by subscription fees and sponsorships as leveraged funds.

7. Outreach/Digital and Print

Grant funds will support digital outreach and print for promotion of events, training programs, and the ELC, estimated at \$5,275 for the grant period. This calculation is based on the amount expended for MICA 2.0 plus approximately 33% to increase digital marketing.

8. Other (Rent, Hardware)

Market rate for space at 20Fathoms for 2.5 years is equivalent to \$23,000. This cost will be split between grant funds at \$10,000 and the remainder covered by leveraged costs provided by the host agency.

Training Activities: Training for eligible participants in WIOA, Going Pro Talent Fund, or other workforce program sources, will be provided as leveraged funds by Northwest Michigan Works!. It is estimated that 75 training participants will require an average of \$1,800 in support for a total of \$135,000.

Administration: Administration fees cover oversight of the project; billing, payroll, fiduciary, and legal fees; Internet, IT infrastructure, and utilities.

SUSTAINABILITY PLAN:

Sustainability of this work began during the MICA 2.0 cycle, which generated \$35,000 in donations from a variety of individual supporters. The ELC will build on this success by implementing three key strategies: 1. Subscription fees for ELC members, 2. Fee-for-service skill upgrade activities, and 3. Sponsorships.

1. ELC member companies will be asked to pay a subscription to take advantage of the skill upgrade events and to support the costs of maintaining a convenor and managing projects. This model is known to be successful in other sector groups and will be further developed by ELC leadership within the first quarter of the grant cycle.
2. Fee-for-service activities will also generate revenue to sustain the program. A potential service that has been already identified is onboarding support for member companies who will specify skill needs for new hires. Other activities could include more in-depth skill upgrade programs, internship model support, and others depending upon the ELC's needs. This model is consistent with other services provided for a fee by 20Fathoms, such as talent acquisition services. This portion of the sustainability plan will be developed and ready to implement by the ELC and 20Fathoms during the third quarter of the grant cycle.
3. Sponsorships will be solicited for ELC-driven events, such as workshops and the two annual events (internship fair and Startup Week). In addition, sponsors may support a participant or groups of participants seeking skill upgrades and/or credentials. This portion of the sustainability plan will build on the previous donations acquired, recognizing and promoting the quantifiable value of services.

In order to successfully implement the sustainability plan, the ELC membership will identify the return on investment for this sector work, and use it to substantiate subscriptions, fee-for-service, and sponsorships. The convenor and 20Fathoms executive director will support this effort, with ELC employer champions taking the lead.

Summary of Job Openings

Information Technology

Employer Name	Job Openings Immediate	Job Openings—Projected (3yrs)
Aunalytics	20	50
Atlas Space	0	10
RJG inc	8	10
SampleServe	0	20
HealthBridge	3	15
Brightly	0	10
FAME	1	12
Midmark	2	4
Equivant	4	8
Hagerty	6	12
V1 Sports	0	5
JPMorgan Chase	1	3
Nordstrom	1	3
Dotdash	1	3
Bread	1	3
Codecademy	1	3
Cherry Republic	1	3
Figure	1	3
Unity Technologies	1	3
Invitae	1	3
Cloudflare	1	3
EPAM	1	3
Coinbase	1	3
Crunchbase	1	3
Digit	1	3
Reddit	1	3
Duolingo	1	3
Total Job Openings	60	204

EMPLOYER #1:

Employer Name: **Aunalytics**
Contact Name: **Derek Smith**
Title: **VP Data & Microservice Integrations**
Address: **10850 E Traverse Hwy, Suite 3355**

Phone: **(231) 392-1031**
Email: **Derek.Smith@aunalytics.com**

EMPLOYER #2:

Employer Name: **Atlas Space**
Contact Name: **Mike Carey**
Title: **Chief Strategy Officer**
Address: **10850 E Traverse Highway Ste 2225**

Phone: **(231) 598-6184**
Email: **mcarey@atlasground.com**

EMPLOYER #3:

Employer Name: **RJG, Inc**
Contact Name: **Dale Westerman**
Title: **President & CEO**
Address: **3111 Park Drive**

Phone: **(231) 947-3111**
Email: **dale.westerman@rjginc.com**

EMPLOYER #4:

Employer Name: **SampleServe, Inc.**
Contact Name: **Russell Schindler**
Title: **CEO / Founder**
Address: **10850 E. Traverse Hwy., Ste. 4400**

Phone: **(231) 218-7955**
Email: **russell@sampleserve.com**

EMPLOYER #5:

Employer Name: **HealthBridge**
Contact Name: **Tim Heger**
Title: **CTO, CIS)**
Address: **10850 E. Traverse Hwy., Ste. 4400**

Phone: **(231) 313-0319**
Email: **tim.heger@myhealthbridge.com**

EMPLOYER #6:

Employer Name: **Brightly**
Contact Name: **Larry Faragalli**
Title: **CEO**
Address: **1430 Monroe Ave. NW, Suite 180**
Grand Rapids, MI 49505
Phone: **(616) 608-7724**
Email: **larry@teambrightly.com**

EMPLOYER #7:

Employer Name: **FAME**
Contact Name: **Ryan Beaver**
Title: **General Manager**
Address: **1200 SW 145th Ave, Ste 301**
Pembroke Pines, FL 33027
Phone: **(231) 645-4637**
Email: **ryan.beaver@lmbsw.com**

EMPLOYER #8:

Employer Name: **CBI (ISSA.org)**
Contact Name: **Shaun Bertrand**
Title: **Senior Vice President**
Address: **1260 Library Street**
Detroit, MI 48226
Phone: **(586) 243-5343**
Email: **sbertrand@cbisecure.com**

PARTNER #1:

Partner Type: **Non-Profit Organization**
Organization Name: **Center on Rural Innovation**
Contact Name: **Mark Rembert**
Title: **Director of Rural Innovation Network**
Address: **2 Quechee Road**
Hartland, Vermont 05048
Phone: **937-728-0048**
Email: **Mark.Rembert@ruralinnovation.us**
Role in Partnership: **Program development and promotion**

PARTNER #2:

Partner Type: **Economic Development Organization**
Organization Name: **Traverse Connect**
Contact Name: **Warren Call**
Title: **President & CEP**
Address: **202 East Grandview Parkway**
Traverse City MI, 49684
Phone: **231-947-5075**
Email: **warren.call@traverseconnect.com**
Role in Partnership: **Promotion and Outreach**

PARTNER #3:

Partner Type: **Workforce Development Entity**
Organization Name: **Networks Northwest/Northwest Michigan Works**
Contact Name: **Rob Dickenson**
Title: **Regional Director of Business Services**
Address: **600 East Front Street Suite 205**
Traverse City MI, 49686
Phone: **231.929.5053**
Email: **rob.dickinson@networksnorthwest.org**
Role in Partnership: **Training Programs, Braided Funding**

PARTNER #4:

Partner Type: **Community-Based Organization**
Organization Name: **TCNewTech**
Contact Name: **Jennifer Szunko**
Title: **Executive Director**
Address: **106 E. Front Street**
Traverse City, Michigan 49684
Phone: **231-357-6668**
Email: **executivedirector@tcnewtech.org**
Role in Partnership: **Promotion, Outreach, Attraction**

PARTNER #5:

Partner Type: **Education and Training Provider**
Organization Name: **MiSTEM Advisory Council Northwest**
Contact Name: **Drea Weiner**
Title: **Northwestern Lower MiSTEM Network Regional Director**
Address: **1101 Red Drive**
Traverse City, 49684
Phone: **(231) 922-6560**
Email: **aweiner@tbaisd.org**
Role in Partnership: **Secondary Education Partnership – STEM**

PARTNER #6:

Partner Type: **Community-Based Organization**
Organization Name: **Newton's Road**
Contact Name: **Barbara Termaat**
Title: **Director, Development & Communications**
Address: **236 1/2 E. Front St, Suite 21**
Traverse City, Michigan 49684
Phone: **231.633.1417**
Email: **barbt@newtonsroad.org**
Role in Partnership: **Secondary Education Partnership – STEM**

PARTNER #7:

Partner Type: **Education and Training Provider**
Organization Name: **Traverse City Area Public Schools**
Contact Name: **Jim Baran**
Title: **STEM Teacher**
Address: **412 Webster St**
Traverse City, MI 49686

Phone: **(231) 933-1700**
Email: **baranja@tcaps.net**
Role in Partnership: **Secondary Education – Computer Science**

PARTNER #8:

Partner Type: **Education and Training Provider**
Organization Name: **Michigan Technological University**
Contact Name: **Jay Meldrum**
Title: **Director of the Keweenaw Research Center
Liaison to the Grand Traverse Area**
Address: **23337 Airpark Blvd
Calumet, MI 49913**
Phone: **(906) 281-1069**
Email: **jmeldrum@mtu.edu**
Role in Partnership: **Program development – Computer Science**

PARTNER #9:

Partner Type: **Corporate Social Responsibility**
Organization Name: **Cisco Networking Academy**
Contact Name: **Clydene Stangvik**
Title: **Cisco Networking Academy CSR Manager, Midwest**
Address: **Cisco Systems, Inc.
United States**
Phone: **218-731-3702**
Email: **cstangvi@cisco.com**
Role in Partnership: **Curriculum and certification**

PARTNER #10:

Partner Type: **Education and Training Provider**
Organization Name: **the_league.Ai**
Contact Name: **Monica Trevino**
Title: **Cofounder**
Address: **10850 E. Traverse Hwy., Ste. 4400
Traverse City, MI 49684**
Phone: **(832) 287-2109**
Email: **mntrevino@uh.edu**
Role in Partnership: **Curriculum – Machine Learning, Artificial Intelligence**

Employer Commitment Letters



September 10, 2021

Keith Kelly
20Fathoms/TCCodes/TCCyber
10850 E Traverse Hwy, Suite 4400
Traverse City, MI 49686

To whom it may concern:

I have known Keith for almost 20 years. We first met while I was attending Northwestern Michigan College (NMC) as a student in the Computer Information and Technology (CIT) program. A few years after graduating, I had a chance to work with Keith in a professional capacity as a member of the NMC CIT Advisory Board and through a return-to-industry program focused on connecting professors with professionals in the technology industry. During those engagements, I saw Keith's passion for helping people prepare for and launch successful careers in the technology industry, and that is why I enjoy working with him.

As a founder of a tech startup (Naveego) in the Traverse City area, I see the need for building a thriving and robust developer community. Keith's work with the MICA 2.0 Employer Lead Collaborative has set a strong foundation for achieving this goal. I have been honored to assist with this initiative as a member of the key employer group and a lead TCCodes instructor.

Over the time with MICA 2.0, we built strong momentum with the TCCodes/TCCyber initiatives. By working closely with the employers in the area, we targeted topics relevant to today's professionals. We observed a steady increase in participation and a strong mix of people both pre-employed and employed. COVID caused a few setbacks for everyone, but Keith was able to navigate that challenge by continuing to build the community virtually.

With light at the end of the COVID tunnel, we must capitalize on that momentum to reach our goal of creating a flowing pipeline of technical professionals for our businesses. The MICA 3.0 funding will allow us to take this to the level by:

- Build connections with state Universities and colleges like NMC.

aunalytics

- Provide content for emerging technology trends like Cyber Security and DevOps through Cisco Networking Academy.
- Continue working with secondary initiatives like MiSTEM and Newtons Road.

Naveego was recently acquired by Aunalytics and is planning additional growth in the area and the state. The company has approximately 250 employees, with the majority in high-tech. We currently have 20 open positions, including but not limited to Data Scientist, Data Engineer, Software Engineer, Cloud Network Engineer, QA Engineer, DevOps Engineer, and UI/UX Developer. We are planning rapid growth over the next few years and will need professionals with these skills.

We believe the TCCodes/TCCyber initiatives are great opportunities to meet those needs and would like to help. In support of this initiative, I am committed to working with Keith as a member of the key employer group and a TCCodes trainer. In addition, we offer the following:

- Use of the Traverse City Aunalytics office conference room for in-person or hybrid virtual training sessions or events.
- Technical support for setting up and using virtual resources such as Amazon Web Services Workspaces to facilitate interactive learning sessions.
- Technical support for cloud or virtual environments required to assist with learning opportunities.

Thank you,

Derek Smith

Derek Smith
VP Data & Microservices Integrations



ATLAS
SPACE OPERATIONS

ATLAS Space Operations, Inc.
10850 E. Traverse Highway, Suite 2225
Traverse City, Michigan 49684-1363

Sep 16, 2021

To whom it may concern,

ATLAS Space Operations strongly endorse the 20Fathoms tccodes and tccyber project's application for the MICA 3.0, and is committed to participating and providing leadership in programs and events the grant supports.

Since 2019, tccodes has demonstrated success by providing high quality, industry-applicable training for software and cyber technologies with sessions supporting a range of skill and interest levels from new developers to professionals through the MICA 2.0 grant. These sessions included presentations from industry experts, hands-on software development lab projects, and certification study groups. ATLAS software engineers and satellite network operators clearly benefited by participating in the presentations and discussions focused on software tooling and methodologies and professional networking opportunities the programs provided. Several members of the ATLAS Space Explorers, a STEM group for middle and high school students sponsored by ATLAS to encourage young adults to pursue careers in the space industry, gained hands-on experience developing Python applications for the Raspberry Pi during learn to code sessions.

ATLAS Space Operations is a leading innovator in the space communications industry recognized as No. 102 on the Inc. 5000 list for fastest growing private companies and No. 15 on the Inc 500 list of fastest growing software companies in 2020. ATLAS, based in Traverse City, Michigan, empowers global access to space through the Freedom Software Platform, a simple solution for processing and analyzing data from space, through a global antenna network, powered by a revolutionary cloud-based software. ATLAS's forward-thinking communications solutions are transforming the space industry by making ground communications simple, affordable, and more scalable than ever before.

To continue to build the Freedom Software Platform, ATLAS needs engineers and operators with a strong background in computer science and cybersecurity at both entry level and with advanced space industry experience. Over the next 3 years, ATLAS projects the need for an additional 10 hires in our technical functional teams including full stack software development, data science, network operations, security, and technical sales writing with a preference to locate these positions in Traverse City. The tccodes and tccyber programs will continue to provide a pathway for these positions and further strengthen the Grand Traverse Region as a healthy ecosystem for supporting growing tech businesses if funded through the MICA 3.0 grant.

A handwritten signature in black ink, appearing to read "Michael J. Carey".

MICHAEL J. CAREY
Founder and Chief Strategy Officer



Re: MICA 3.0 Employer-Led Collaborative grant application

To whom it may concern,

The COVID-19 global pandemic has greatly impacted the market dynamic for Talent Acquisition and Retention in the Software Engineering industry. The adoption of full-time remote positions being offered by most companies is accelerating competition in hiring new team members. One of the ways RJG is adapting to meet this challenge is hiring individuals with less experience and adjacent experience, and investing in training-up those individuals in-house to be able to perform the roles that are needed to continue meeting our goals.

Since its initial establishment in 1985, RJG has been dedicated to building awareness and talent in the local Traverse Bay Area region. For more than three decades, the company has played an integral role in supporting students and future workforce talent as they pursued careers in the STEM field through internship and job shadowing opportunities. RJG has also collaborated with many other organizations in the area to help bolster the local industry and been invested in its overall growth.

In 2021, RJG opened eight new Engineering positions—five Software Engineers, two Quality Assurance Analysts, and one Automation Engineer—as well as two additional backfill positions to help address the growing demand within the company and the local industry. In the next three years alone, RJG anticipates that demand will continue to grow, requiring five-to-10 additional positions in similar roles with at least several more backfill positions. With the current state of the market, talent retention is as critical as talent acquisition and the company recognizes the importance of investing in its employees not only for their own success, but also that of the company, the community, and local industry.

RJG is committed to supporting this Grant proposal by utilizing the 20Fathoms training programs to help assist in growing and training of new and existing talent. This commitment and use of the 20Fathoms programming will allow the company to continue hiring new talent as it works with other companies in the community to share in the challenge of training-up talent, while also addressing the critical need to acquire and retain qualified candidates in the industry.

Best Regards,

A handwritten signature in black ink, appearing to read "D. MacDonald".

Douglas MacDonald
Software Engineering Team Lead

A handwritten signature in black ink, appearing to read "Dale W. Westerman".

Dale Westerman
CEO



SampleServe

September 16, 2021

To Whom It May Concern:

RE: Michigan Industry Cluster Approach 3.0 (MICA 3.0)

My name is Russell Schindler. In addition to starting and running a northern Michigan technology company called SampleServe, Inc., I also started, a technology meet-up in Traverse City called TCNewTech. The TCNewTech group consists of over 1,000 members that hold monthly meetings to facilitate networking and interaction among technology enthusiasts in northern Michigan. We are strong advocates of innovation and technology startups with a pitch event held the first Tuesday of the month. Our audience is typically made up of technology-minded people and consists mostly of programmers, IT staff, people looking for opportunities for their tech company, tech companies looking for staff, individuals looking for investment opportunity, start-up founders looking for investors, and tech geeks that just like learning about new offerings.

I am sending this letter in support of the Michigan Industry Cluster Approach 3.0 (MICA 3.0) project/program being proposed by Keith Kelly. As a promoter of the tech ecosystems in northern Michigan, but even more importantly as an employer of software coders, data analytics professionals and cyber security professionals, we desperately need more talented employees in these areas. What Keith and his programs provide is the foundation for the talent we need to continue the tech economy and tech jobs in Northern Michigan. SampleServe, Inc. is growing and we are exporting software services all over the world, with those dollars for those services returning right here to Traverse City. If our growth continues, we anticipate needing 10 to 20 of the professionals mentioned above in the next 12 to 36 months. Hopefully even more.

I'm looking forward to continuing to work with Keith and his program and also continuing to develop the technology ecosystem in northern Michigan anyway I can. I strongly urge you to support this program.

Thank you!

Sincerely,

A. Russell Schindler
President / CEO / Prof. Geologist

To Whom It May Concern,

This letter represents a commitment from Brightly to provide continued support and leadership for the "TCCodes MICA Employer Led Collaborative" (ELC). Building upon the existing foundation we have jointly worked to establish, Brightly will continue to invest in the success of the TCCodes ELC program by providing curriculum development and resources for infrastructure and planning, as well as access to relevant subject matter experts dedicated to further educating TCCodes ELC participants.

Brightly is a design-led, research-driven digital transformation company that specializes in solving complex business problems at the interface of people and technology. The demand for the way we approach and solve problems has become even more apparent, with many of today's businesses feeling more stress than ever to perform and rise to meet the demands of the market. In order to continue to provide high-quality services to our customers, the need to inspire and develop new, talented minds is one of our highest priorities. We currently serve customers from around the state, the country, and the globe with a talented staff and network of contract workers. Members of our team can be found around Michigan, including at our headquarters in Grand Rapids and our satellite locations in Traverse City and Detroit, as well as locations around the country. Through the duration of the MICA 3.0 grant project, Brightly is expected to continue to add staff to nearly all positions, including mid-level and senior developers and UX/UI designers, project managers, Scrum and Agile positions, and business analysts.

Brightly is committed to continuing to provide access to our network of resources and knowledge for the participants of the TCCodes ELC. In addition, Brightly will appoint one of its Senior Lead Developers, Justin Gauthier—a Traverse City native—as the point of contact to 20Fathoms for the TCCodes ELC. Justin will continue to support TCCodes Program Manager, Keith Kelly, in the development of the program, as well as provide hours of instructional content relating to UX/UI design, full-stack development, and career development for its participants. In addition to subject matter expertise, Brightly will continue to support, sponsor, and provide resources to assist 20Fathoms and the TCCodes ELC's missions and goals.

With a penchant for supporting and serving the Traverse City and West Michigan communities, we have hosted job shadow, educational, and career awareness events for a number of tech centers, schooling groups, and the general public, either independently or in partnership with organizations like 20Fathoms. In the past, Brightly has offered paid internships to qualified, college-level applicants who are looking for real-world experience to kickstart their career as a designer or software

RE: MICHIGAN INDUSTRY CLUSTER APPROACH (MICA) 3.0 09/15/2021

developer. We will strive to continue to offer this level of support for individuals pursuing a deeper knowledge of our craft.

Our commitment to creating an environment that encourages and enables the success of the next wave of tech talent is driven by our desire to put more people in a position to not only learn from experts, but to provide opportunities for them to work toward becoming experts themselves. Community outreach is a key component of this mission and partnering with organizations like 20Fathoms and TCCodes ELC allows all of us to do our part in fostering that growth. When valuable contributions can come from people with a variety of different backgrounds and skill sets, the outcome is far more likely to be something truly remarkable, and with what we've seen already, we believe the potential for this program and the benefits it can offer are nearly unlimited.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Faragalli".

Larry Faragalli
CEO



Trusted Solutions for Higher Education

To Whom It May Concern,

FAME is the dominant provider of software and technical services for career-oriented schools. We build and maintain mission critical applications for schools such as Title IV Financial Aid processing, student information systems, and document management systems. With over 330 schools depending upon our systems daily, having quality technical resources is paramount to our success. The FAME leadership team is continually looking for high growth individuals to join our organization in a few key area's:

1. Full Stack Application Developer
2. Quality Assurance Engineer
3. Technical Support Specialist
4. Cloud Engineer

As General Manager of FAME, I'm deeply aware of the ongoing turnover of technical resources in the software development arena. We mitigate attrition through thoughtful coaching and onboarding, while providing avenues for employee growth. Yet technical resources historically turn every 3 to 5 years. Prompting FAME to onboard 4 such resources each year to support growth while filling in seats left by resignations. Recently, our onboarding efforts have been remotely driven with hiring happening across the country. Aligning with our focus on remote resources, our Florida based company has engaged a Traverse City based QA team to partner with us for testing efforts.

The involvement of FAME Inc will be initially driven by the General Manager through coaching and mentorship. Utilizing 20+ years of developer experience, the intent is to grow development skillsets of participants by replicating the FAME onboarding process. With a focus on delivering high quality code in a timely manner, developers in this program will have the very same experiences as newly hired FAME developers. Additionally, FAME will consider any of these technical resources for our ongoing openings at FAME.

Having worked with Mr. Kelly first as a student, later as an adjunct instructor, and finally as a co-teacher I have great faith in his ability to transform these concepts into a successful program. He has that rare passion for continuous improvement that has pulled him outside of traditional academia. He co-mingles with local startups, business leaders, and technical entrepreneurs. I'm very proud to have been a success story of NMC and Keith's.

Respectfully,

Ryan Beaver

Ryan Beaver ~ General Manager ~ Rbeaver@FAMEInc.com



Letter of Commitment

To Whom It May Concern:

This letter of commitment is to be used to establish the Grand Traverse ISSA group's participation in the TCcyber & TCcodes MICA grants. The Grand Traverse ISSA group will be leveraging chapter officers and chapter members to help further the development and support of the TCcyber and TCcodes programs. Projected openings will include a variety of IT roles including design, development, UX/UI design, coding, security, and project management.

The Grand Traverse ISSA group will play an instrumental role by leveraging its vast amount of people and resources to help further drive the success of the TCcyber program. The Grand Traverse ISSA group will provide leaders to help provide training and will also leverage members to help with mentorship and specific security curriculum development. These activities will include but are not limited to; design, web development, cyber, and coding activities along with career awareness will be presented to early learners during outreach activities targeted at the local schools and community college.

The Grand Traverse ISSA group's participation in this program will be limited to in person and "in-kind" support. The Grand Traverse ISSA group will not be providing any financial support to this program.

Shaun Bertrand

Grand Traverse ISSA Chapter Founder & President

September 16, 2021

Re: Michigan Industry Cluster Approach (MICA) 3.0

To Whom it may concern:

I write this letter of personal support of 20Fathoms' proposal for MICA 3.0 funding to support the Grand Traverse Software Development Employer Led Collaborative (ELC) to expand their program to include data and analytics training opportunities. The job market for data and analytics is currently booming and the skills are transformative for employees and employers alike.

Over my 10 years of experience in the data and analytics field I've had a broad array of experiences ranging from an individual contributor building artificial intelligence models, a leader building a data science team from scratch and a mentor to new employees just beginning their careers. I'm currently employed as a principal data scientist at IBM Watson Health where our mission is to address the world's most pressing health challenges through data and cognitive insights.

I will support the ELC by leading the initiative to incorporate data and analytics topics into the program. We will build a team of experienced professionals, organize the appropriate learning materials, and provide training opportunities to the local community.

I look forward to working with the ELC to expand the available training opportunities for our community.

Sincerely,

Jacob Miller
Principal Data Scientist
IBM Watson Health

RE: MICHIGAN INDUSTRY CLUSTER APPROACH (MICA) 3.0

To whom it may concern:

The usage of artificial intelligence (AI) and machine learning (ML) across businesses continues to rise and is impacting virtually every industry. With this increase in usage comes the increase in demand of experts in these fields. There seems to be a gap in AI/ML or any other data related curriculum at a high school level. This is where the_league.Ai can help.

the_league.Ai is an organization that aims to educate high school students on AI and ML concepts through lessons, activities and a final competition. Our organization was founded in September 2020 by a group of engineers motivated by our experience in outreach and our desire to give back to the community. We all come from different educational backgrounds but have positioned ourselves in the world of data science and machine learning. With our knowledge and experience we hope to achieve our mission of inspiring the next generation of leaders in machine learning and artificial intelligence while also helping them build valuable skills, leadership, confidence, and ingenuity for years to come.

We officially kicked-off our efforts in February 2021 through a pilot program. Thanks to the support of a Harmony Public high school in Houston, Texas, we were able to conduct our virtual program by teaching a handful of students the fundamentals of the Python programming language and machine learning concepts. We began with a total of approximately 10 students and ended the pilot in June 2021 with our first ever end-of-year competition where the students had the opportunity to compete against each other for the chance to win scholarship prizes.

By partnering with 20Fathoms we hope to extend the program to Northern Michigan. Although our curriculum will continue to evolve, we will be in a position to leverage it to the Michigan community as well as provide support through mentorship, professional-led workshops, and more. This partnership will allow us to engage young learners around the Traverse City area in the ever-growing AI/ML space and encourage them to pursue career opportunities in these data-driven fields.

We look forward to working with 20Fathoms to inspire the Northern Michigan community through teaching and collaboration.

Sincerely,

Monica Trevino
the_league.Ai
Cofounder & Secretary



August 27, 2021

Lauri Berryhill
Michigan Department of Labor and Economic Opportunity
Workforce Development – Sector Strategies

Re: Michigan Industry Cluster Approach 3.0 (MICA 3.0) Application

I'm pleased to write this letter of support for 20Fathoms in their MICA 3.0 application. Your continued investment will allow an already successful program to expand opportunity and further meet employer needs for growth and innovation.

20Fathoms was selected in 2019 by the Center on Rural Innovation, in partnership with our sister organization, Rural Innovation Strategies, Inc. and the U.S. Economic Development Administration, from a highly competitive national pool to receive intensive technical assistance to help realize their vision for creating digital economy jobs driven by employer demand.

Since then, 20Fathoms has implemented a comprehensive strategy to educate and train local residents, equip them with in-demand digital skills, place them in digital jobs, and empower them to launch or expand businesses that are driving their digital economy in Northern Michigan.

20Fathoms' tccodes and tccyber programs meet a critical need for in-demand skills that supports the growth of local startups and businesses. The combination of strategic employer engagement, practitioner instructors, and job placement support, in the context of an active supportive community of technologists, provides a robust and accessible pathway for entry into the high-demand fields of software development and cybersecurity.

We look forward to continuing to collaborate with 20Fathoms as they expand their programming to include additional in-demand skills in data analytics, machine learning, and AI, to provide community-level training in digital skills, and to fill a critical gap in supporting employers and workers to articulate skills in credentials and degrees. We in particular, look forward to sharing the outcomes and best practices from 20Fathoms to support the digital economy development of the other 24 rural communities in our Rural Innovation Network.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Rembert".

Mark Rembert
Director of Rural Innovation Network
Center on Rural Innovation
Mark.Rembert@ruralinnovation.us



September 9, 2021

Grant Review Panel

Michigan Department of Labor and Economic Opportunity, Workforce Development

RE: MICHIGAN INDUSTRY CLUSTER APPROACH (MICA) 3.0

Dear Grant Review Panel:

Please accept this letter of support for 20Fathom's grant submission for the Michigan Industry Cluster Approach 3.0. As the President and CEO of Traverse Connect, the lead economic development organization for the Grand Traverse region, I consider the continuation of the **tccodes** and **tccyber** programs, as well as the expansion of a new data-focused learning opportunity to be critical aspects of strengthening our local economy and our ability to train the workforce of the future.

Businesses and nonprofit organizations across our region site workforce talent attraction, retention and training among their most important concerns. As a community, we are focused on training and up-skilling our existing workforce in order to provide for current employer needs and to ensure we have the talent to excel in the future. Our region has highlighted micro-credentials and targeted technology training programs as key aspects of our long-term plan.

20Fathoms and the training programs included in this grant serve as an important talent accelerator hub not just in Traverse City, but for our entire region. Your support for this MICA 3.0 request will help us to further our region-wide economic development and workforce training priorities.

Thank you for your consideration of funding for this important organization. Please do not hesitate to contact me directly for further information in support of this application.

Sincerely,

A handwritten signature in blue ink that reads "Warren M. Call".

Warren M. Call
President & CEO



Board Chair: Sue Peters
Chief Executive Officer: Matt McCauley

A program of



Networks
Northwest
Talent / Business / Community

Letter of Support for the MICA 3.0 Grant

September 3, 2021

Keith Kelly
20 fathoms
10850 E Traverse Hwy Ste 4400
Traverse City, MI 49684

Dear Mr. Kelly,

This letter is sent to show the commitment of Networks Northwest/Northwest Michigan Works! to support innovative programs and practices to solve the persistent skills gap issues found in the Information Technology industry. Our support extends to 20 fathoms for their MICA 3.0 grant that will offer training in the tech industry to grow our talent pool and help elevate our tech community to the next level of success.

Specifically we pledge to;

- Help bring local employers to the table and identify specific needs within the industry, creating an awareness of needed skill sets and then a program that can match those needs. Also, making sure that local employers are endorsing created programs and credentials.
- Offer training assistance to those individuals coming from the 20 fathoms program. This will take the form of accepting referrals (self or otherwise) to our WIOA program for extended training identified by the participant. Enrollment into this program could also have the added benefit of several other Michigan Works services, including but not limited to Career Pathway planning, soft skill training, or internal referrals to other business service programs.
- Offer assistance to training providers for enrollment into the MiTC database for the purpose of becoming an eligible training provider locally.
- Braid funding where possible for participating employers, such as the Going Pro Talent Fund or another Customized training offered through Northwest Michigan Works! funding. We will work with participating employers to identify appropriate training for incumbent and new hires that result in an industry recognized credential. Northwest Michigan Works! staff can work with the employer(s) to complete the Going Pro Talent Fund grant application and/or create a customized training opportunity.

Antrim • Benzie • Charlevoix • Emmet • Grand Traverse • Kalkaska • Leelanau • Manistee • Missaukee • Wexford
PO Box 506 • Traverse City, MI 49685-0506 • Phone (231) 929-5000 • Fax (231) 929-5012 networksnorthwest.org

Northwest Michigan Works! is supported by the State of Michigan and is a proud partner of the American Job Center Network. This project may have been funded, in portion or in whole, with authorized and appropriate federal funds. Contact Networks Northwest to request a specific dollar figure, as funding levels change frequently. Equal opportunity employer/program. Auxiliary aids and service are available upon request to individuals with disabilities. Individuals with speech or hearing impairments may call the Michigan Relay Center by dialing 711.



Board Chair: Sue Peters

Chief Executive Officer: Matt McCauley

A program of



This commitment is provided in good faith based on previous partnerships and aligning community goals and values. We expect that this project will provide opportunities for success for the tech industry in our community. Both creating a community learning environment that fills the skills gap and helping those in our community make it even better.

Sincerely,

A handwritten signature in black ink, appearing to read "R. - .".

Rob Dickinson, Regional Director of Business Services

Antrim • Benzie • Charlevoix • Emmet • Grand Traverse • Kalkaska • Leelanau • Manistee • Missaukee • Wexford
PO Box 506 • Traverse City, MI 49685-0506 • Phone (231) 929-5000 • Fax (231) 929-5012
networksnorthwest.org

Northwest Michigan Works! is supported by the State of Michigan and is a proud partner of the American Job Center Network. This project may have been funded, in portion or in whole, with authorized and appropriate federal funds. Contact Networks Northwest to request a specific dollar figure, as funding levels change frequently. Equal opportunity employer/program. Auxiliary aids and service are available upon request to individuals with disabilities. Individuals with speech or hearing impairments may call the Michigan Relay Center by dialing 711.



DATE: September 15, 2021

SUBJECT: Michigan Industry Cluster Approach 3.0 (MICA 3.0)

As the Executive Director of TCNewTech, I have worked closely with 20Fathoms' tccodes and tccyber programs and strongly support their request for the MICA 3.0 grant in order to continue their highly successful and much-needed efforts.

TCNewTech is a community of tech professionals, investors, entrepreneurs, and local policymakers building a culture of innovation, economic growth, and opportunity for talent in our region. Over the past 6+ years, we have hosted hundreds of startups at our monthly pitch events to support entrepreneurs in launching their startups in Northern Michigan. Our mission is to yield year-round, high-paying jobs and high-value commerce in the area.

By utilizing the MICA 2.0 grant, 20Fathoms has provided learning and community plus innovative pathways for entry into careers in software development and cybersecurity that are crucial to tech startups. At each of the TCNewTech pitch events, we provide space for our audience to learn about tccodes and tccyber programs. TCNewTech relies on a pool of IT professionals which 20Fathoms' tccodes and tccyber programs have been able to deliver by utilizing the MICA 2.0 grant. The MICA 3.0 grant would allow those efforts to continue and further support our synergistic goals.

In addition to our monthly pitch events, TCNewTech is working on a collaborative project with 20Fathoms, and other community partners to host the Northern Michigan Startup



Week in May of 2022. This multi-day event will bring together entrepreneurs (high school, college, and commercial levels), creatives, and programmers. Again, the MICA 3.0 grant will provide 20Fathoms with the resources needed to support this event.

Please feel free to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Szunko".

Jennifer Szunko
Executive Director
231-357-6668
executivedirector@tcnewtech.org



Northwestern Lower Michigan Region

September 10, 2021

Keith Kelly
20Fathoms
10850 E. Traverse Hwy Ste 4400
Traverse City, MI 49684

To whom it may concern,

I am writing to express support for the 20Fathoms MICA 3.0 Employer Lead Collaborative Initiative and commitment to pursue collaborative activities. Northwestern Lower MiSTEM Region fully supports the vision of a professional community that uses its expertise as a resource to drive exposure and opens opportunities for students to engage in the IT sector. Our mutual goal is to further develop employer and education partnerships with a specific focus on career exploration and awareness. We intend to partner in the following ways: engage the professional community to develop the MiSTEM Network STEM Careers Story Mapping project, connect professionals with educators and students through job shadowing, and enhance teacher professional development through teacher externships. Projects of this nature will give context to the content of computer science and cybersecurity within the classroom.

We look forward to working with the 20Fathoms MICA 3.0 Employer Lead Collaborative Initiative to advance workforce development within our community that is aligned with educational goals of good teaching and learning.

Sincerely,

Drea Weiner
Northwestern Lower MiSTEM Network Regional Director
1101 Red Drive
Traverse City, MI 49684



September 2, 2021

SUBJECT: Letter of Support for TC Codes/Cyber and MICO 3.0 Continuation Grant

To Whom It May Concern,

Since their inception, TC Codes and TC Cyber, under the leadership of Keith Kelly, have been improving the pipeline of software development and cybersecurity talent in the Traverse City area. The work of TC Codes and TC Cyber have benefited local employers who include both fledgling startup companies and established enterprises. Moreover, Mr. Kelly has been effective at working collaboratively with key members of the business and education eco-system in our area including members of our business incubator, 20 Fathoms; our community college, Northwestern Michigan College (NMC); and internationally recognized engineering school, Michigan Technological University (MTU). Moreover, beneficiaries have included high school students all the way up to experienced technical professionals looking to broaden their skillsets.

Traverse City is also home to Newton's Road, a 501c3 non-profit dedicated to attracting more local K-12 students into STEM fields of study. TC Codes has a key role to play with this effort and providing age-appropriate learning opportunities that spark the interest of kids. Mr. Kelley has personally collaborated with Newton's Road for nearly 10 years since the organization was founded.

Finally, there is an incredible opportunity for TC Codes and TC Cyber to extend their impact due to Michigan Tech's new presence in Traverse City. MTU will be able to compliment and build on TC Codes programs along with enabling new certificate and degree programs at NMC. This could enable place-bound students to receive more specialized computer science education without the need to leave Traverse City.

Consequently, I would like to offer my enthusiastic support for the work of 20 Fathoms as it relates to TC Codes and TC Cyber and hope that their application for the MICA 3.0 funding will be granted.

Sincerely,

A handwritten signature in black ink, appearing to read "William D. Myers".

William D. Myers
CEO, Promethient
Committee Chair, MTU-Grand Traverse Area Steering Committee
Board Chair, Newton's Road



Jim Baran
STEM Teacher
(231) 933 6969
baranja@tcaps.net

17 September 2021

Dear Grant Committee,

I am a computer science and engineering teacher at Traverse City Central High School. I had no formal computer science training when I began teaching here five years ago. Luckily, I was able to connect with Keith Kelly and tccodes, which greatly sped up my learning curve through hands-on training and exposure to industry professionals. The benefits of tccodes to my students and me is immense.

There were several training opportunities which I had the good fortune of attending through tccodes. While Python is becoming one of the most popular programming languages, I had no experience with it and didn't teach it in my classroom. My first foray into python programming was tccodes' *Introduction to IoT and Cloud using greenhouse models* training. The training was well-laid-out with active participation and immediate feedback using the sensors of the greenhouse. I gained a basic understanding of how to program in Python and deploy software to control hardware. I liked it so much that I purchased a class set of the IOT greenhouses to use in my own classroom.

The *Introduction to Python Programming* course gave me the deeper dive on how to program with Python using the tools used by professional programmers (VS Code). The knowledge I gained gave me the confidence to teach Python to my students and as a result of this training, I now teach Python to my AP Computer Science Principles students. The exposure to industry professionals was also exceptional. I was able to see for the first time how software is really developed, managed, and deployed in the real world. This holistic view enabled me to better connect the concepts I teach in my courses with what companies are actually doing, benefitting my students who are now more prepared to make an impact when outside of the classroom. Without tccodes and the instruction by Keith Kelly I would not have been able to provide the opportunity for students to learn a language that is in high demand.

Another benefit of tccodes has been the connection with Traverse City's local tech community. The events I've attended from tccodes that bring in our local experts have been highly valuable and enabled me to showcase the opportunities we have locally to my students. I run the internship program for a STEM honors program at Central High School. My experiences with tccodes and the network I've developed has provided great opportunities for my students. As an example, one student was highly motivated to land a computer science internship and she was



Jim Baran
STEM Teacher
(231) 933 6969
baranja@tcaps.net

able to leverage the tccodes network and my relationship with Keith to land a great experience at our local startup incubator 20 Fathoms. This experience exemplifies the impact of Keith and tccodes in developing the talent our local companies need to grow and succeed.

In the coming years, I am excited by the opportunity to further develop my knowledge of computer science with tccodes. I need to learn more about properly structuring code for useability, code management, and effective problem solving techniques. It is essential I learn more about how software development occurs in the real world so that I can organize my instruction around it in order to better prepare my students for careers in computer science. tccodes is the avenue through which I can grow my technical knowledge, adapt my instructional practices to industry standards, and provide valuable industry experiences to my students. Simply put, without tccodes my instruction will suffer and my students will be less prepared for future opportunities.

Do not hesitate to reach out to me with any questions you may have.

Sincerely,

Jim Baran



Re: Michigan Industry Cluster Approach 3.0 MICA 3.0

Dear Reviewers,

Michigan Technological University fully supports the award of the MICA 3.0 grant to 20 Fathoms under the direction of the Principal Investigator, Keith Kelly. This recommendation is on behalf of Michigan Tech as a Post-Secondary Institution as referenced in the Request for Proposal dated August 17, 2021.

The MICA 3.0 grant will be a continuation of the MICA 2.0 grant that has funded the tccodes and tccyber efforts at 20Fathoms over the past two years. The next iteration will extend and expand tccodes services including core features connected to Michigan Tech's computer science degrees and programming.

Michigan Tech understands and supports the following plan:

Extending and expanding our talent pipeline concept supporting software development (tccodes)

- Continuation of talent pipeline creation supporting cybersecurity (tccyber)
- New programming supporting data analytics, machine learning, and AI.
- New community level training supporting the continued digital transformation of the workforce.
- Additional work on credentialing including certifications and degrees.

Content specifically for Michigan Tech

- Michigan Tech commitment to tech ecosystem and education in Traverse City.
- Successes with engineering talent pipeline creation with connections to MTA and NMC Engineering and Engineering Technology.
- Vision of collaboration with community-based organizations such as 20Fathoms (tccodes) and Newton's Road in support of computer science, data science, and software development.
- Michigan Tech's ability to support the Employer-Led Collaborative by providing
 - Demand and projected job openings
 - Competency and credential requirements
 - Opportunity for professional advancement including articulated career pathways including advanced degrees
 - Outreach, exploration, and promotion to early K-12 technology and computer science learners

Michigan Tech has opened an office in Traverse City which will further help in the collaboration on this project. The office will be located in the heart of Traverse City at the Traverse Connect building, a few blocks from the 20 Fathoms facility to the west and a few miles from the campus of Northwestern Michigan College (NMC) to the east. The goal of this office is to strengthen the agreement that Michigan Tech has with the Grand Traverse Area including NMC, 20 Fathoms, and the local Intermediate School Districts and other STEM programs such as Newton's Road. The office will be led by Jay Meldrum, Director of the Keweenaw Research Center of Michigan Tech. With 24 years at Michigan Tech, Meldrum has the experience to make the necessary connections to this project to ensure its success.

Michigan Tech looks forward to working with Keith Kelly and 20 Fathoms on this project.

Respectfully,

Jay Meldrum
Director of the Keweenaw Research Center
and
Liaison to the Grand Traverse Area



September 7, 2021

Letter of Support for MICA 3.0

To the MICA 3.0 Team
To Whom it May Concern,

I am pleased to submit this letter of support for MICA 3.0

Cisco Networking Academy is pleased to support 20Fathoms and their related tccodes and tccyber MICA projects for continued funding provided through the MICA 3.0 application process. 20Fathoms and Cisco Networking Academy collaborated during the MICA 2.0 project to create opportunities, learning, and certification in both coding and cybersecurity. We look forward to continued collaboration during this next grant cycle as they expand into additional cloud and data technologies.

Cisco Networking Academy is a global IT and cybersecurity education program that partners with learning institutions around the world. Recent initiatives have centered around coding and cloud technologies. While 20Fathoms is focused on a local solution, they are also assisting with these broader efforts. For example, Keith Kelly delivered our beta Python programming course and provided detailed feedback on both the course and certification to authors. He has completed early-adopter train-the-trainer courses including IoT Security and DevNet Associate. Finally, Keith was recently contact by our technical manager to share his success strategies for teaching coding.

Again, we look forward to continuing to support Michigan and the local 20Fathoms initiatives as they coordinate to build learning communities that utilize local experts, engage a variety of workforce development partners, and leverage Cisco's curriculum and certifications. Innovative workforce development programs like tccodes and tccyber prepare learners for the most in-demand technology careers and will grow a skilled workforce to power a competitive digital economy.

Sincerely,

Rebecca Chisolm

Rebecca Chisolm

Senior Leader for Cisco Networking Academy, North America

March 8, 2021

To whom it may concern,

I completed Northwestern Michigan College's associate in software development program, and then went on to get a bachelors in computer information systems from Ferris State University in 2017. After graduation, I quickly found that a degree does not automatically transfer into a career and I lacked the confidence to even apply for jobs in my field. I honestly felt pretty defeated. When I found out about tccodes, I had been out of college for a while and was feeling very disconnected from something I originally felt so passionate about. I had taken a position as a project coordinator at our local electric company (where I still work), and making pretty good money, but wasn't feeling very satisfied or challenged by my work. I was so excited about tccodes and everything they were doing. I took full advantage and went to every class and social event I could, and really started feeling like part of the community again.

Right before COVID hit, Kieth Kelly connected me with a recruiter at Hagerty Insurance to interview for their internship program. I was very excited and the interview went really well, but then unfortunately they had to cancel their internship program for 2020 due to COVID. Although that did not work out, it was still a great opportunity to make that connection and go through the interview process, and I would not have had that opportunity if it wasn't for tccodes.

I have continued to take classes and am currently participating in the front-end developer cohort, which is much more in depth and process oriented than previous classes and it has really re-sparked my passion for user experience and design. Through what I learn in this class, I plan on building a portfolio and moving forward in my pursuit of a front-end developer/design role this year. I am very thankful for tccodes and tech community they are creating and fostering in Traverse City.

Best regards,

Roxanne Scrivener

A handwritten signature in black ink that reads "Roxanne Scrivener". The signature is fluid and cursive, with "Roxanne" on top and "Scrivener" below it.