Connecting regional employers, job seekers, community colleges and government agencies
**Current State:**

**Disconnect** among stakeholders in the training-job cycle.

**The problem:**
No systematic connection between the stakeholders.

**The result:**
No way to systematically speed up *filling open jobs with appropriately trained jobseekers.*
Next Step: Software **platform** that proactively connects stakeholders.
Tucson Companies and Organizations

**COMPANIES**

- Sargent Aerospace & Defense
- Airtronics
- SAMP Southern Arizona Manufacturing Partners
- TM International
- TEP Southwest Gas
- Carondelet Health Network
- Randstad

**ORGANIZATIONS**

- City of Tucson
- Pima County
- Pima Community College
- University of Arizona
- Startup Tucson
- Arizona METRO Chamber
Innovations and Differentiators

- Predictive Analytics
- Competency as Currency
- Real-time Signaling
- Social Channel
- Local Focus
Where we are now

FUNDDED

Engage with Stakeholders

- Employer Interviews
- Organization Interviews

Specification

- Identify Use Cases
- Conceptualize Software
- Vet with stakeholders

Staged Pilot

- Develop JobSignals software
- Deploy limited functionality platform
- Iteratively integrate and test

Data-Driven/ Cloud Service

- Refine based on pilot
- Expand stakeholders to include agencies
- Add more employers and schools
- Evolve to a national model

Pima

National
- **Multiple role options for each type of user** – simplifies navigation (users only see the screens and functions they need) and supports data security

- **Modular design supports scalability and maintainability**; facilitates addition of future functionality and data sources

- System architecture and technical design follows **best practices for system security**, including appropriate user authentication, encryption, and coding practices to prevent unauthorized external access; system will be **secured for cloud-based deployment**

- **System is designed for ease of integration** using **standards-based APIs** and RESTful JSON web-services
**PredicGve AnalyGcs**

**Labor Market Supply & Demand Modeling**

- Uses local and regional LMI combined with pipeline data from colleges to *predict future supply and demand* for jobs and skills

- Predicts *median and entry-level salary* based on labor market forecasts and regional supply and demand.

**Competency as Currency**

- Maps competencies to courses and jobs
- Computes expected salaries of a given combination of competencies based on labor market models

**Algorithm Design**

- LMI and pipeline predictions *influence future values*
- Modeled as a *Markov network* that *can handle missing data*
- Model includes data on *adjacent job titles and college credentials*
- Includes *configuration management* of job titles and skills taxonomies
- Second *overlay model* used to compute value of sets of competencies

"Not for Circulation" © 2015-6 NLET.org
A PCC instructor wants to contact you regarding Additive Manufacturing training.

Employer

College

Job Seeker

Find Talent
Connect with training providers

Find Training
Upgrade your competencies

Analyze Labor Market
See supply and demand

Send Job Signal
Broadcast future needs

Recruit Students
Reach out to enrolled students

Advise Students
Help students with career paths

Analyze Labor Market
Analyze and predict job openings

Analyze Institution
Compare programs to needs

Explore Job Market
Manage my career

Get Training
Find programs and support

Evaluate My Skills
Estimate your job market value

Get Advice
Career services and networks

New Talent Request
Employers have signaled a future need for Additive Manufacturing. Tap here for details.

New Career Path
Have you considered Additive Manufacturing? You already have 60% of the needed skills.
Employer

Message From PCC
A PCC instructor wants to contact you regarding Additive Manufacturing training.

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Connect with training providers

Find Training
Upgrade your competencies

$ Analyze Labor Market
See supply and demand

Send Job Signal
Broadcast future needs

Additional Options...

College

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Employers have signaled a future need for Additive Manufacturing. Tap here for details.

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Help students with career paths

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Evaluate My Skills
Estimate your job market value

Get Advice
Career services and networks

Talent Pipeline for Additive Manufacturing Tech near Tucson, AZ

2014 - 2017

By Year

By Quarter

Tap a year to see more detail.

Share Data

Signal Openings
Message From PCC
A PCC instructor wants to contact you regarding Additive Manufacturing training.

New Talent Request
Employers have signaled a future need for Additive Manufacturing. Tap here for details.

Analyze Institution
Compare programs to needs
Analysis of **Trade Profession Programs** at **Pima Community College**

**2014-2017**

**Show by Year**  **Show by Quarter**

**Talent Supply**  **Market Demand**

<table>
<thead>
<tr>
<th>Program</th>
<th>Talent Supply</th>
<th>Market Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>80</td>
<td>78</td>
</tr>
<tr>
<td>Aviation</td>
<td>18</td>
<td>27</td>
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<tr>
<td>Building &amp; Construction</td>
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<td>21</td>
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<tr>
<td>Machine Tool Tech</td>
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<td>39</td>
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<tr>
<td>Surface Mining</td>
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<tr>
<td>Truck Driver</td>
<td>139</td>
<td>163</td>
</tr>
<tr>
<td>Welding</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>

Explore Talent Supply chain. View by job title or skill. Find gap between demand and supply at your college and in region.
Salaries Near Tucson

Based on my current skills: $45,156

Additive Manufacturing Technician - $61,000
Welder and Brazer - $39,640

Median Household Income ($44,600)

Size of Circles = Number of Jobs Available
Get Training for **Additive Manufacturing Technician** near **Tucson, AZ**

### My Relevant Skills
- Blueprint reading
- Joint weld
- Oxyacetylene welding
- Basic cutting skills
- Brazing and soldering

### Certificate
- Machine Tool Tech
  - Lathe Safety
  - Electrical Discharge
  - Machine Tool Programming
  - Metrology / Quality Control

### Associate Degree
- Mechatronics
  - Basic Algebra and Trig
  - Control Systems Design
  - Written Communication
  - CAD/CAM

### Additive Manufacturing Tech
Build up components from 3D digital models by depositing material in layers.
You are **30%** of the way there.
It will take about **40 credit hours** to become fully qualified.

### Current Value: $45,156
- Evaluate My Skills

### New Value: $53,238
- Find Training

### New Value: $65,897
- Find Training

### Market Salary $61,000
- Connect with employees
Stakeholders in the training-job cycle are connected and communicating.

Stakeholders in the training-job cycle are meeting future rather than past needs.
Drivers of Market Adoption

Employers:
• Large businesses: Mission-critical impact on local talent supply
• Small businesses: Previously unavailable connection with talent pipeline

Colleges:
• Higher rate of return for dollars invested in programs
• Better recruitment and career services tools

Job Seekers:
• Shortest path between training and desired employment
• Personal connection with employer mentors and career advisors
Pilot Proposal: Approximately 9 Months

- Pilot Initiation ($50,000)
  - Participant recruitment
  - Pima preparation
- Pilot Development ($350,000)
- Pilot Execution ($250,000)
  - Pima integration
  - Employer integration
  - Testing and evaluation

- Next Steps
  - Tucson launch
  - Fundraising for national launch

- Pima return on license
  - 10% of first $1.5M
  - 7% of net sales
NATIONAL LABORATORY FOR EDUCATION TRANSFORMATION (NLET)

EDUWORKS, INC.

PIMA COMMUNITY COLLEGE SYSTEM

THOMAS R. BROWN FOUNDATION