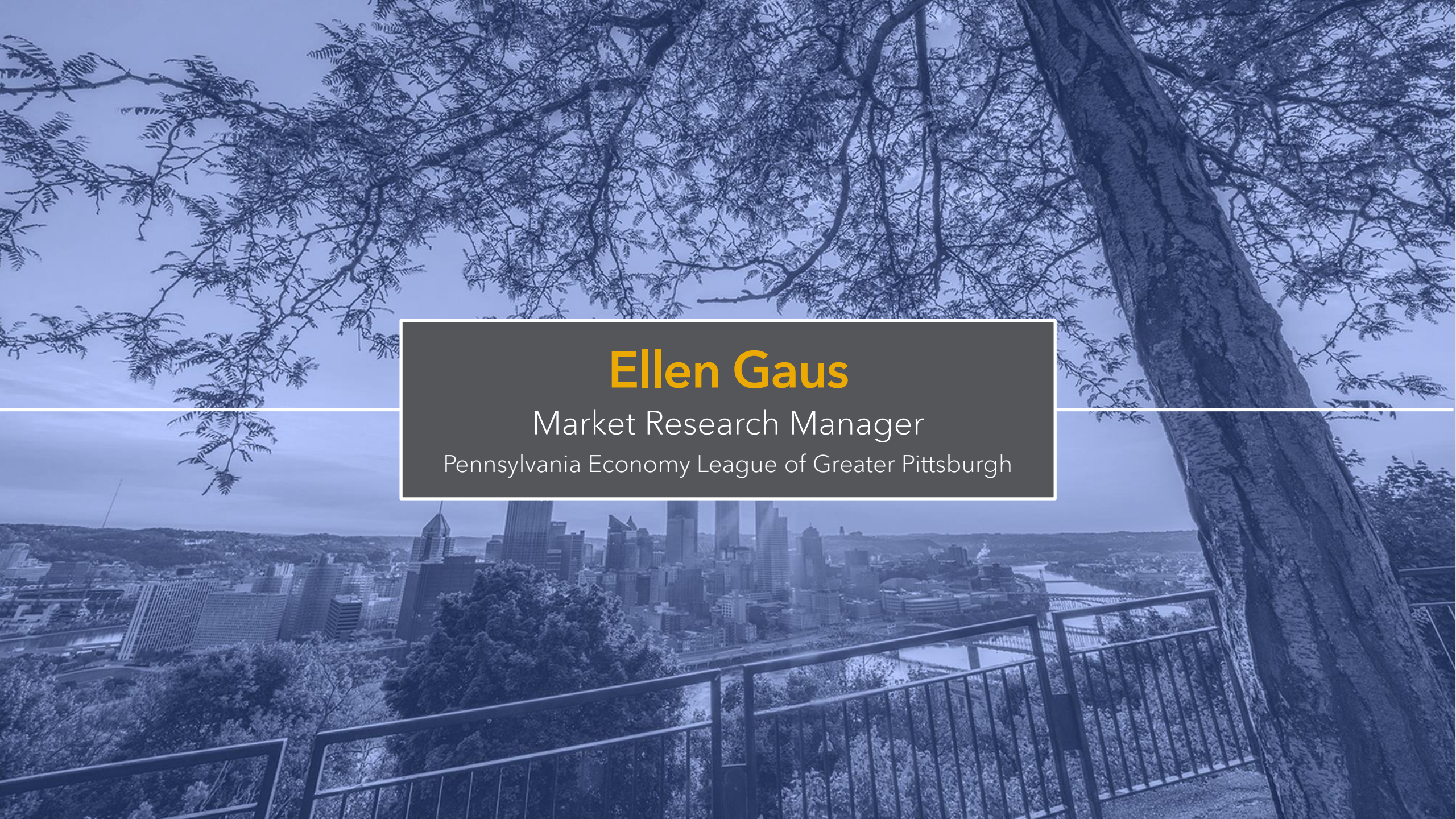
ALLEGHENY CONFERENCE ON COMMUNITY DEVELOPMENT

Regional Sector Dossiers – Developing Annual FAQs for Multiple Audiences

Thursday, December 1, 2022



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The Process

Opportunity

A comprehensive annual source of regional industry information

Objective

To create more efficient and insightful responses to frequent requests

Methodology

Evaluate, gather and interpret internal and external data

Findings

Richer insights derived from combining commonly accessed data with time-intensive research

Conclusion

Dossiers maximize the efforts of the research team while creating an enhanced product for multiple audiences

The Opportunity

- Repeated requests for the same or similar information
  - Current occupational/industry/talent statistics
  - Economic activity
  - Industry-specific lists

- Add additional value with…
  - Trends and comparisons
  - Qualitive information

The Objective

To create more efficient and insightful responses to frequent requests

- Use consistent industry sector definitions to educate audience
- Develop outline to address all frequent questions, multiple audiences and purposes
- Evaluate data sources for best information
- Detail update process to easily transfer responsibilities to new team members

Methodology: Dossier Sections

- Sector definitions (NAICS, SOC, CIP)
- Key Facts and Figures
  - 1, 5, 10-year trends and % of total for occupations, establishments, GDP, completions, wages
- Education pipeline (completions, institutions)
- Industry demographics
- Talent demand
- Key Anchors and Assets
- Business Activity
- Additional information as applicable
  - Exports
  - Patents
  - Venture capital funding
  - University-based research
- Sector scorecards

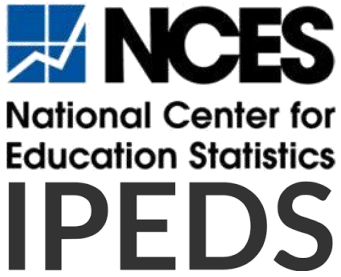
Methodology: Dossier Topics

Sector	Subsector	Strategic Subsectors
Advanced Manufacturing	Materials	• Additive Manufacturing • Petrochemical and downstream • Distribution and Logistics
Energy	• Coal • Components • Natural Gas	• Energy storage (batteries) • Renewables
Financial and Business Services	• Finance and Insurance • Headquarters	• Fintech • Venture Capital
Healthcare and Life Sciences	• Healthcare • Life Sciences • Medical Devices	Biotech
Information Technology	• Hardware, Software and Services • Computer Systems Design and Related Services	• Artificial Intelligence • Autonomous Vehicles • Cybersecurity • Robotics

Methodology: Process for update

- Master outline document details source of information, variables needed, geographies needed and special notes
- All dossiers have the same Key Facts and Figures section, which is updated through large data downloads that are linked with sector definitions
- These processes allow team members to quickly check in on progress and assist if necessary

Methodology: Sources of data



The Key Numbers - Advanced Manufacturing

		Advanced Manufacturing		Key Subsector Materials	
		Pittsburgh Region	United States	Pittsburgh Region	United States
Employment	2020	86,354	12,103,887	16,159	988,669
	% of Total	7.4%	8.2%	1.4%	0.7%
	1-year Change	-7.3%	-5.4%	-11.9%	-5.9%
	5-year Change	-7.9%	-1.8%	-19.8%	-4.2%
	10-year Change	-8.6%	4.7%	-22.5%	2.9%
Establishments	2020	2,773	358,681	352	27,351
	% of Total	4.0%	3.4%	0.5%	0.3%
	1-year Change	-0.8%	1.0%	-3.0%	0.9%
	5-year Change	-1.6%	5.3%	-4.9%	3.7%
	10-year Change	-6.4%	4.7%	-10.9%	-0.6%
Average Annual Wages	2020	$66,576	$73,483	$69,251	$74,919
	% of Regional	112.9%	119.5%		
	1-year Change	2.3%	5.0%	-4.2%	0.2%
	5-year Change	12.2%	14.0%	3.1%	10.0%
	10-year Change	25.4%	27.1%	10.6%	24.2%
Gross Regional Product (in millions)	2020	$14,598	$2,345,602	$3,397	$264,775
	% of GDP	9.7%	12.4%	2.3%	1.4%
	1-year Change	-2.0%	1.2%	-6.5%	-0.2%
	5-year Change	2.9%	11.9%	-10.5%	18.5%
	10-year Change	15.4%	31.8%	-3.2%	54.7%
Location Quotient	Employment	0.90	NA	2.07	NA
	Establishments	1.18		1.97	
	GDP	0.79		0.65	
Jobs Multiplier	Total	2.57	NA	3.55	NA

Source: Emsi

Each sector dossier addresses quantifiable subsectors

Key numbers section compares to United States to establish context for performance

Each metric demonstrates current condition, share of total as well as short- and long-term change

Location quotient to measure concentration across different metrics

2019-2020 Degrees in Information Technology by Title and Award Level from Regional Institutions										
CIP Code	Degree Title	Award Level								
		< 1 academic year	1 < 2 academic years	2 < 4 academic years	Associate's degree	Bachelor's degree	Master's degree	Doctor's degree - research/ scholarship	Postbacc. certificate	*Grand Total*
11.00	Computer and Information Sciences and Support Services	48	7		299	1,160	1,437	97	16	*3,064*
14.09	Computer Engineering					74	117	6		197

Award level to demonstrate variety of study opportunities

Institutions with Completions in Information Technology	
Institution	Completions (2019 – 2020)
Carnegie Mellon University	2,443
University of Pittsburgh-Pittsburgh Campus	1,201

Demonstrates where talent comes from

Top Occupations in Information Technology								
SOC	Title	Employment (2019)	% of Industry Employment	% of Total Occupational Employment	5-year change	Wages	LQ	Training
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	4,175	11.3%	46.5%	-3.1%	$95,020	0.75	None

% of industry employment fulfilled by particular occupation

% of occupation working in specific industry

Major employers by sector, including product and estimated regional employment

Leading IT and Robotics Companies -Top 30			
Rank	Organization	Product	Estimated Headcount
1	Amazon	Retail	3,500
2	Crown Castle USA	Information Technology	993

Key Anchors and Assets

- **Institutional Strengths**
  - Institutional rankings, significant programs, and developments
- **Research and Development Centers**
  - Relevant information about timeline, developments, funding, employment
- **Entrepreneurial/innovation support networks**
- **Significant regional employers**
  - Timeline of recent major announcements for employment, new developments/partnerships, acquisitions
  - Links to news articles for additional information

Duolingo			
About	Duolingo is a Pittsburgh-based language-learning website and mobile app, as well as a digital language proficiency assessment exam. The project was initiated at the end of 2009 in Pittsburgh by Carnegie Mellon University professor Luis von Ahn (creator of reCAPTCHA) and his graduate student Severin Hacker.		
Highlights	11/29/21	Duolingo will take up to 38,000 sqft of space at Liberty East in a 13-year lease. The company expects to move in in May 2022. Duolingo currently occupies 46,000 sqft at its headquarters at 5900 Penn Ave.	https://www.bizjournals.com/pittsburgh/inno/stories/news/2021/11/29/duolingo-nearly-doubles-local-office-footprint.html

Additional Information

Expansion and Downsizing Activity in Information Technology by Year					
Year	Investments [1]			Downsizings	
	Total Activity	Job Impact [2]	Capital Investment [3]	Total Activity	Jobs Impacted [2]
2010	41	1,020	$7,670,000	4	-86
2011	48	1,331	$2,728,500	1	-107
2012	33	1,323	$54,600,000	1	-2
2013	51	1,487	$26,140,000	2	-16

Notable Technology Industry Expansions - 2019 to 2021				
Date Announced	Company	New Jobs	Capital Investment	Comments
Jan-21	Gecko Robotics	130	$5,800,000	Gecko Robotics signed a lease for a 70,000-square-foot space a Nova Place
Nov-21	National Student Clearinghouse	30	$300,000	National Student Clearinghouse is expanding its IT development center, occupying 6,000sf at One Northshore Center

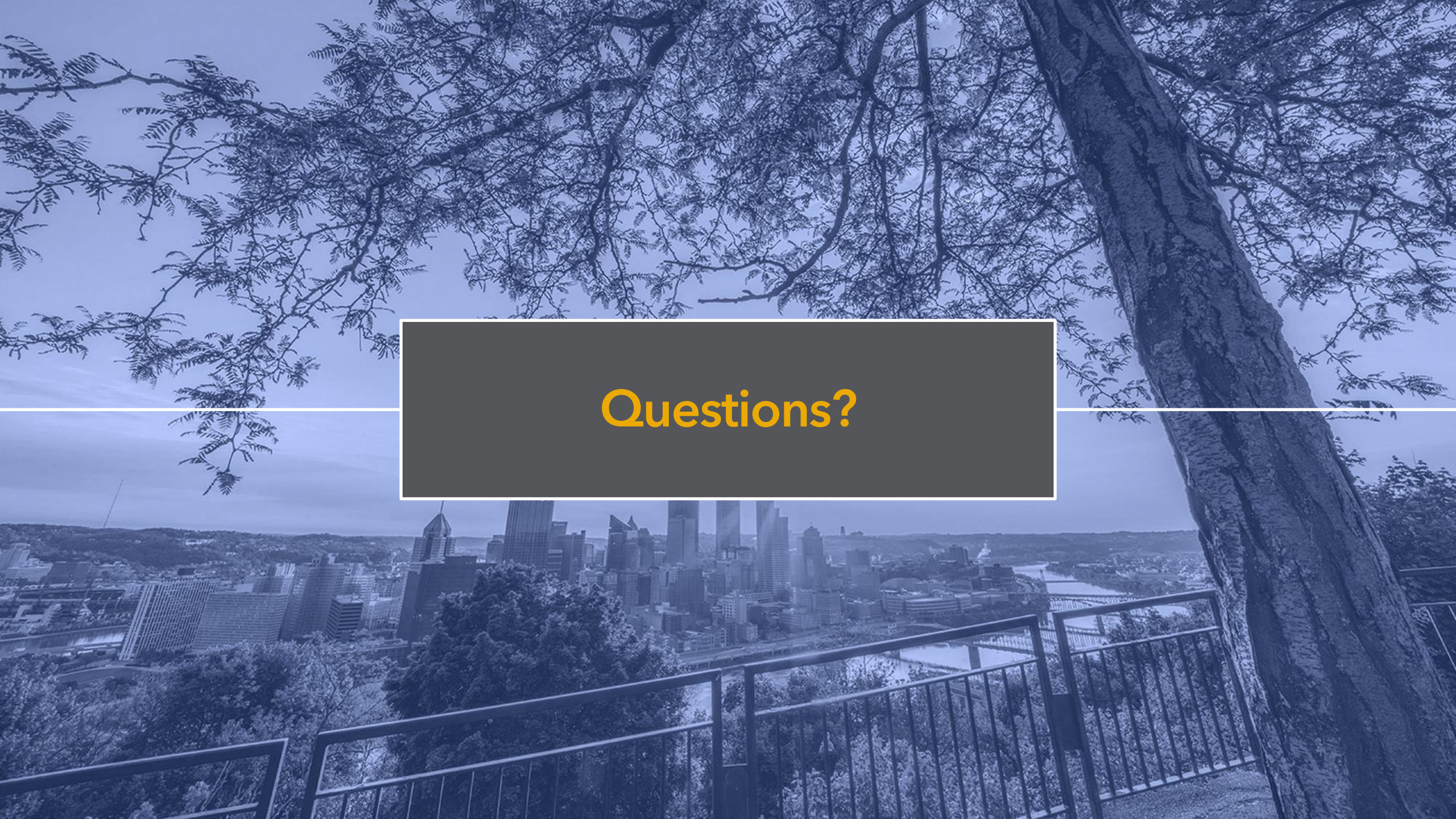
- 5-10 years of information depending on availability
  - Change over time
  - % of most recent year
- Exports
- Patents
- Venture capital funding
- University-based research

Findings

- Improved data analysis efficiency and quality control
- Additional options for emphasizing the strength of key sectors, subsectors and strategic subsectors
- Efficient process for internal teams to reference dossiers for frequently asked questions, leading to more unique requests for research
- Project for new team members to immerse themselves in data collection and analysis and establish sector familiarity

Conclusion

- The dossier methodology can be applied to many topics of interest whether they are industry, occupation, program or otherwise defined
- Expanded data coverage of key sectors presents multiple areas of interest
- Updating and disseminating the dossiers saves the research team an incredible amount of time both in producing the information as well as referring requestors to the dossiers


Questions?


Thank you!