



CALIFORNIA COMMUNITY COLLEGES
Doing What MATTERS™
FOR JOBS AND THE ECONOMY

Building an ICT Workforce For the Future

Information and Communication Technologies

Regional Industry Advisory Committee Meeting for Greater Sacramento

Thursday, November 1st, 2018

1:30 PM – 4:30 PM

Sacramento County Office of Education

Welcome!



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- Tammy Cronin
 - Project Leader and Portfolio Manager, Valley Vision
- Emma Koefoed
 - Project Associate, Valley Vision
- Markus Geissler, PhD
 - Professor and Deputy Sector Navigator, ICT/DM, Greater Sacramento Region
- Thanks to ICT Council Members for their support!
- Thanks to Jared Amalong for hosting us at SCOE!



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ICT Sector Opportunities in the Greater Sacramento Region

Markus Geissler, PhD

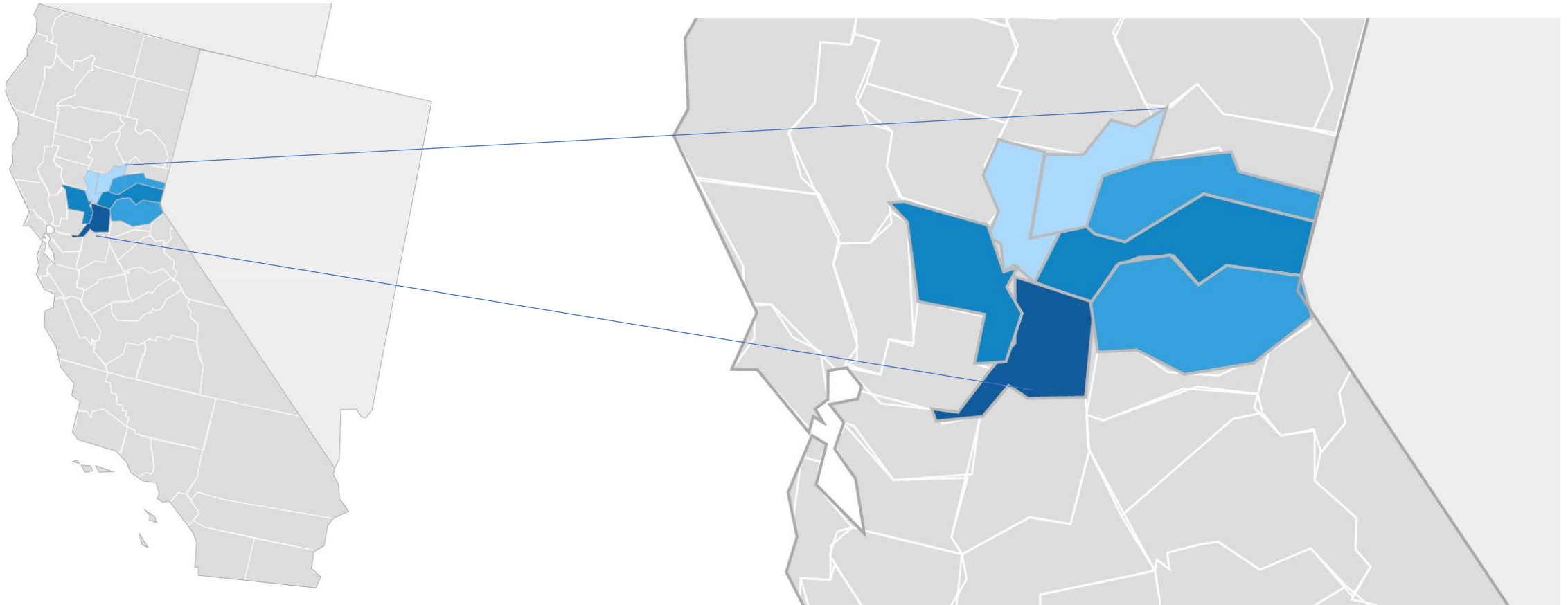
Professor and Deputy Sector Navigator, ICT/DM

Greater Sacramento Region



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Greater Sacramento= 7 counties



Regional ICT Jobs & Wages



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46,891

Jobs (2017)

5% **above** National average

+5.0%

% Change (2017-2022)

Nation: +8.0%

\$39.80/hr

Median Hourly Earnings

Nation: \$37.65/hr

Where are the ICT Jobs?



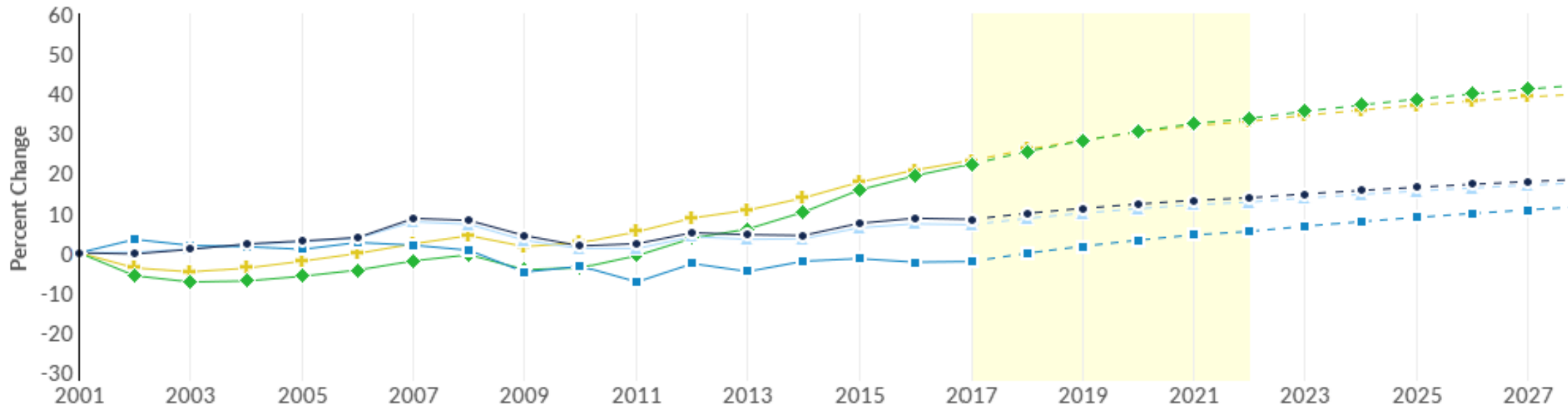
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County	2022 Jobs
Sacramento County, CA	32,902
Placer County, CA	7,519
Yolo County, CA	4,654
El Dorado County, CA	2,402
Nevada County, CA	808
Sutter County, CA	
Yuba County, CA	

ICT Jobs in Our Region



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Greater Sacramento (7 counties) Far North (15 counties) North/Far North (22 counties) California United States

ICT Regional Trends



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Region	2017 Jobs	2022 Jobs	Change	% Change
● Region	46,891	49,222	2,331	5.0%

But since many IT jobs can be done remotely...

◆ State	886,758	970,010	83,252	9.4%
+ Nation	6,098,247	6,585,385	487,138	8.0%

Industries Employing ICT Workers in our Region



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Industry	Occupation Group Jobs in Industry (2017)	% of Occupation Group in Industry (2017)	% of Total Jobs in Industry (2017)
State Government, Excluding Education and Hospitals	5,289	11.3%	5.9%
Custom Computer Programming Services	4,400	9.4%	64.5%
Computer Systems Design Services	2,952	6.3%	63.3%
Corporate, Subsidiary, and Regional Managing Offices	2,020	4.3%	16.0%
Wired Telecommunications Carriers	1,893	4.0%	54.7%

ICT Education Opportunities



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- Several public and private Universities that offer multiple ICT degrees
- Six Community Colleges that offer multiple ICT degrees and certificates
 - State of California IT Apprenticeship Program that is supported by the Governor's Office, Government Operations Agency, Labor and Workforce Development Agency, Department of Technology, CalHR and SEIU Local 1000
- Some High Schools offer ICT pathways and academies
- Coursera, Lynda, CompTIA, etc.

... but our Region is NOT producing enough qualified ICT workers!



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38	2,104	4,036
Programs (2017)	Completions (2017)	Openings (2017)

CIP Code	Program	Completions (2017)
11.0701	Computer Science	600
14.1001	Electrical and Electronics Engineering	236
50.0401	Design and Visual Communications, General	164
11.1006	Computer Support Specialist	157
14.0901	Computer Engineering, General	137

ACM Computing Disciplines



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- Computer Science (Software Development, Calculus, Science)
- Software Engineering (Software Systems)
- Computer Engineering (Computer Hardware and Firmware)
- Information Technology (Networks, Servers, and Cloud)
- Information Systems (MIS) (Business Systems Analysis)
- Cybersecurity (Defenses, Forensics, IDS)
- Computing in other disciplines (Bioinformatics, etc.)
- Data Science (Data Analysis, Statistics)



Opportunities to Do More!



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- Grow existing ICT Pathways at Community Colleges
 - Make ICT degrees and certificates at CCs easier to complete
- Establish more ICT Pathways at more High Schools
 - Information Support and Services
 - Networking (Cisco, Microsoft, and Linux)
 - Software and Systems Development (Computer Science)
 - Games and Simulations
- Train and hire more qualified ICT instructors
 - Ideally, but not necessarily, with recent industry experience

Tomorrow's ICT Jobs



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- What will a typical ICT job look like in 2022? In 2028?
- Current high school freshmen
 - Will graduate high school in 2022
 - Will graduate college as early as 2026
 - Though most will need to, or choose to, take longer than four years
- What knowledge, skills, and abilities should ICT college graduates have in 2026?
 - Technical skills
 - Professional skills
 - “Up-skills” for existing ICT workers and for those changing careers to ICT fields

Giving credit where it's due



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- Thanks to Aaron Wilcher, Director, NFNRC Centers of Excellence

Centers of Excellence



1410 Ethan Way
Sacramento, California 95825

Building an ICT Workforce for the Future!



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- 2:00 PM: Industry Panel: Preparing for Future ICT Industry Needs
- 3:00 PM: Networking Break
- 3:15 PM: New Initiative: 24 in 24 - ICT Pathways
- 3:25 PM: Update: State of California ICT Apprenticeship Program
- 3:40 PM: WBL Opportunity: CareerEngage by Align Capital Region
- 3:50 PM: Breakout Sessions: ICT Curriculum Review/Approval

Industry Panel: Preparing for Future ICT Industry Needs



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- Andrew Maroun
 - Cybersecurity and Networking Senior Manager, Golden 1 Credit Union
- Sadie St. Lawrence
 - Data Scientist, VSP Global
 - Founder and CEO, Women in Data
- Kevin Cordoza
 - Corporate Vice President of Engineering, Nor-Cal Beverage Company

Networking Break



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- Our next presentation starts at 3:15 PM.

New Initiative: 24 in 24



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- Jared Amalong
 - Information and Communication Technologies Coordinator, Sacramento County Office of Education

WBL Update: State of California ICT Apprenticeship Program



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- Richard Grotegut
 - Deputy Sector Navigator, Information & Communication Technologies/Digital Media, Bay Area Region
 - Director, Western Academy Support and Training Center (WASTC)

New Initiative: ACR CareerEngage



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- Cornelius Brown
 - Align Capital Region

Breakout Sessions: ICT Curriculum Review/Approval



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- Computer Applications/Business Information Worker (*Mather*)
- Computer Programming/Computer Science (*Conference Room B*)
- Cybersecurity/Networks (*Mather*)
- Data Science/Databases (*Mather*)
- Web Technologies (*Mather*)