



# **PricewaterhouseCoopers (PwC)**

**Mike Quindazzi,  
Managing Director**

**USCPrice**

Sol Price School of Public Policy  
*Center for Economic Development*

# THE CHANGING FACE OF AEROSPACE

*in*

# SOUTHERN CALIFORNIA

▲ THE FUTURE IS HERE



INSTITUTE FOR APPLIED ECONOMICS





- **The Future Has Arrived**
- **Recent Industry Activity**
- **Sizing Things Up**
- **Spreading the Wealth**
- **Work, Work, Work**
- **What the Industry Says**



THE CHANGING FACE OF AEROSPACE  
*in*  
SOUTHERN CALIFORNIA



The **Future** Has Arrived.



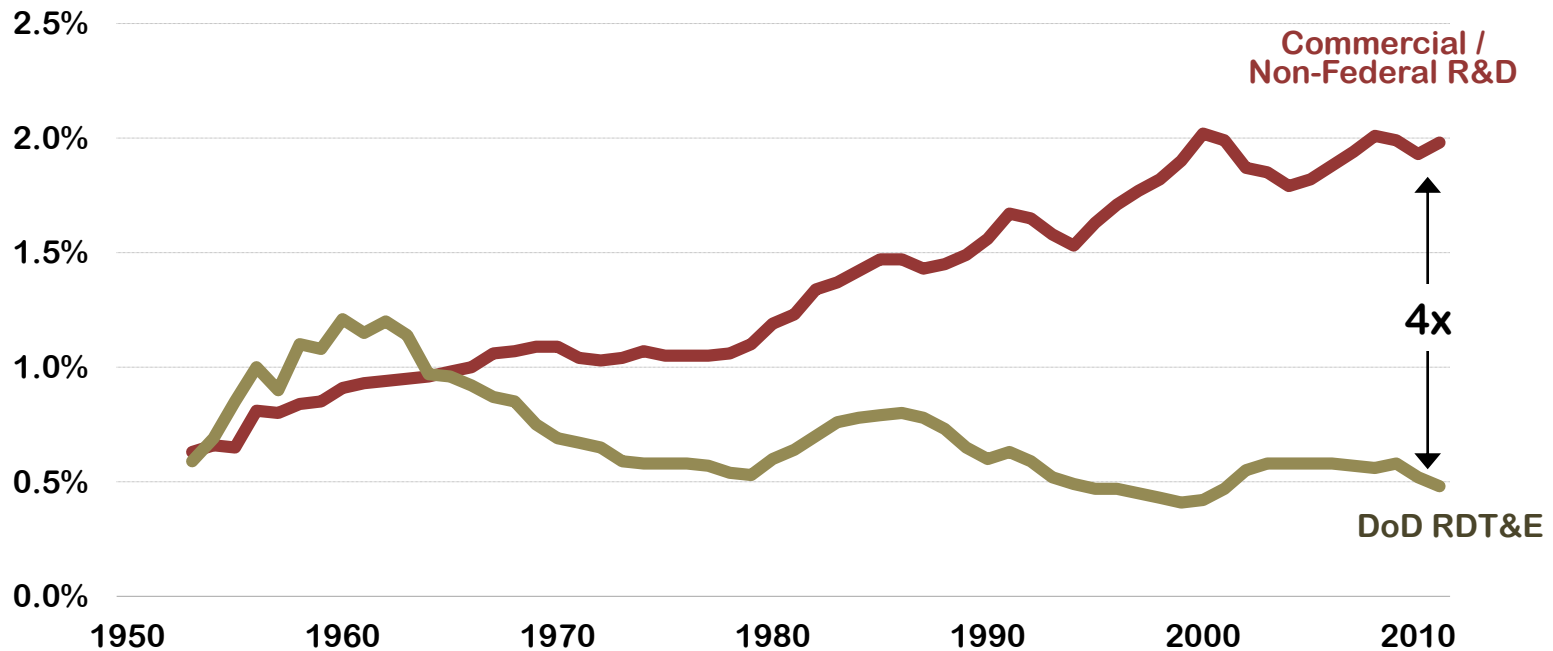


**Aerospace** is being  
**transformed** by **exponential**  
**technologies** from within and  
from outside the industry.

# THE CHANGING FACE OF AEROSPACE *in* SOUTHERN CALIFORNIA

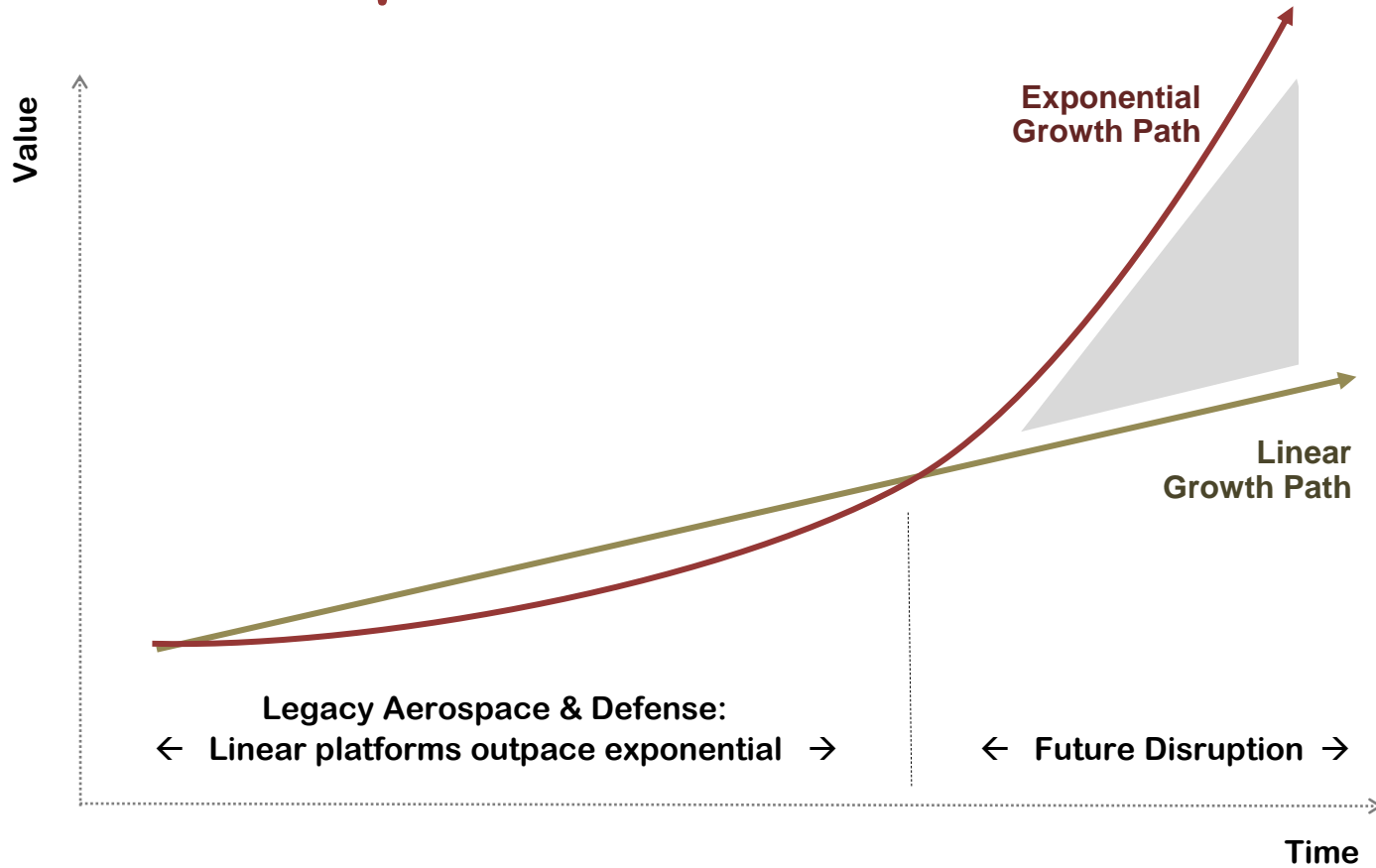


## US R&D Spending as % of GDP By Funding Source





# Linear vs. Exponential Growth





**Southern California** remains  
one of the world's **most**  
**competitive** regions for  
aerospace **innovation.**



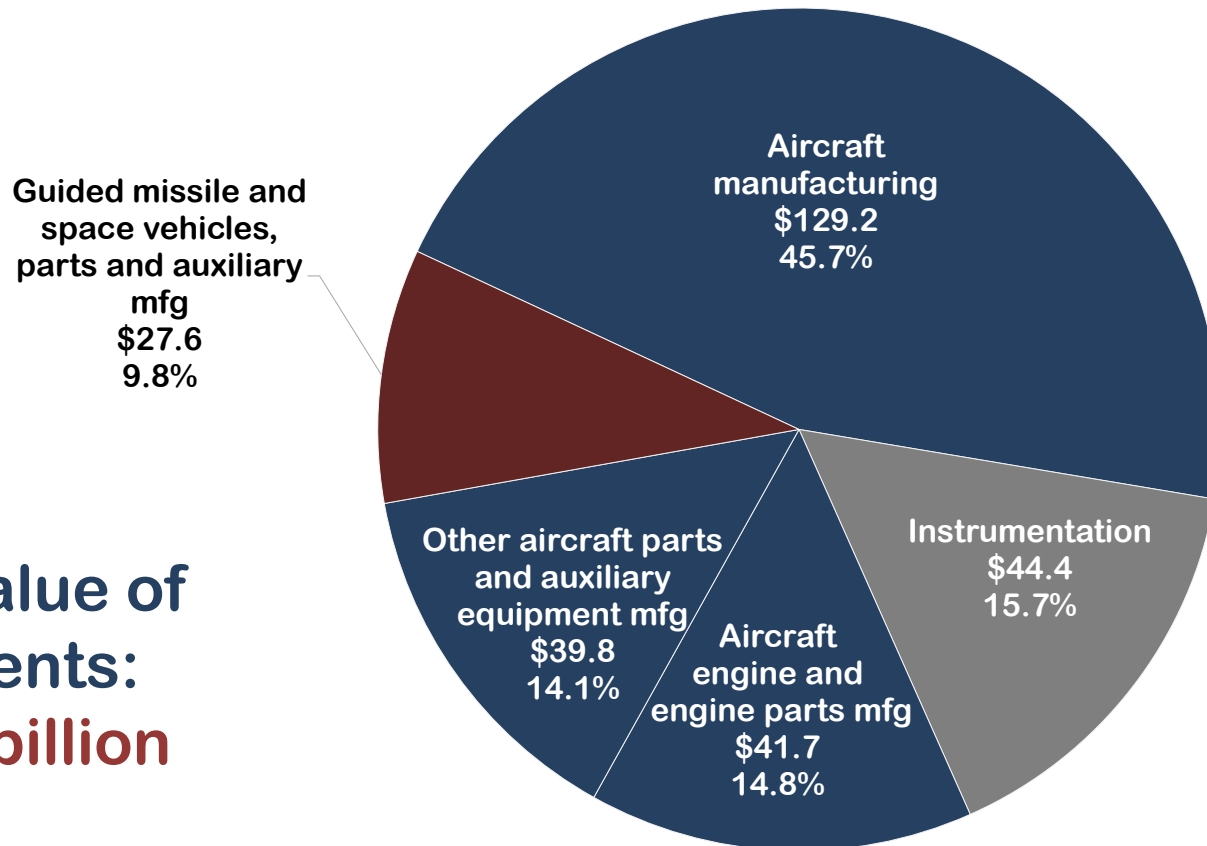


# Recent Industry Activity.



## Total Value of Shipments in 2014

\$ billions

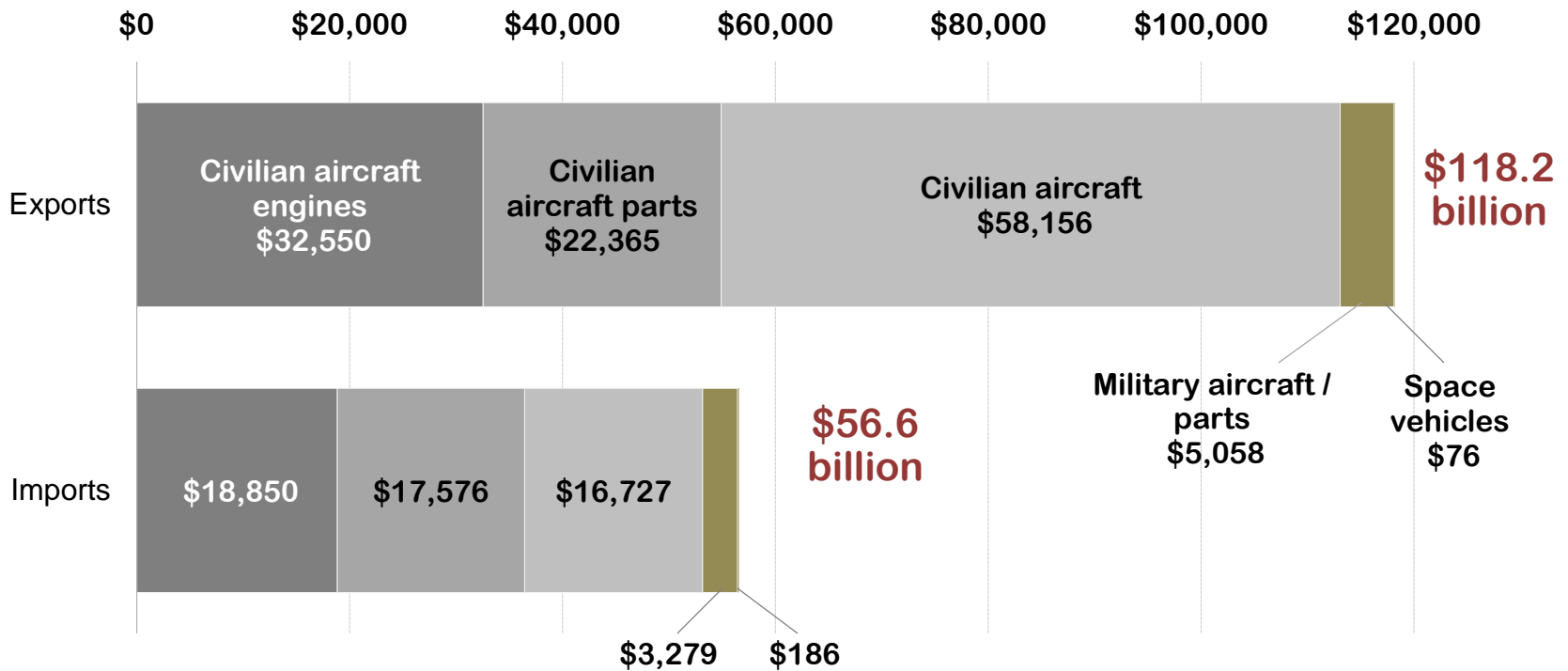


Total Value of Shipments:  
**\$282.7 billion**



# Composition of US Aerospace Exports 2014

\$ millions



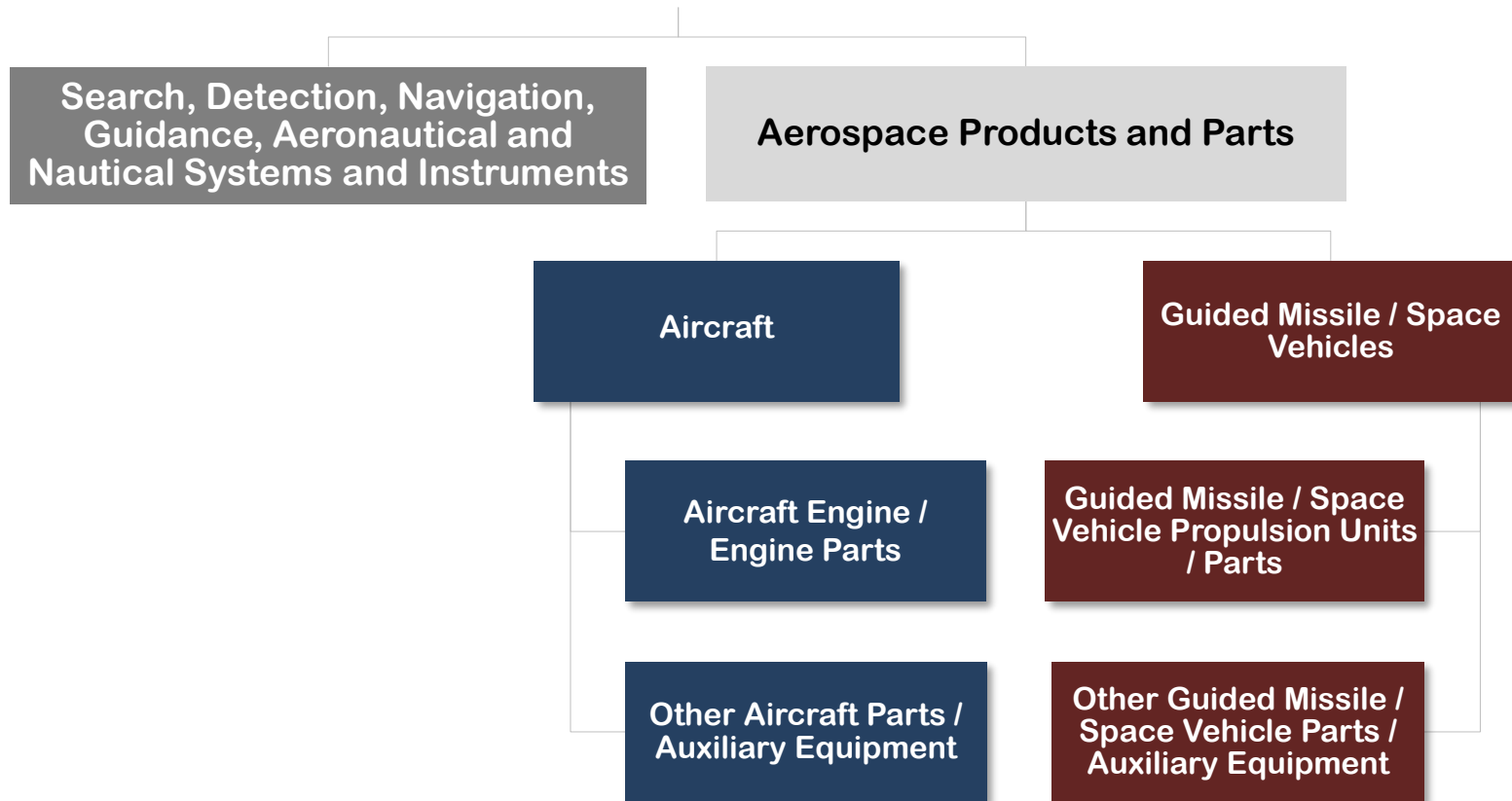
Source: BEA



# Sizing Things Up.

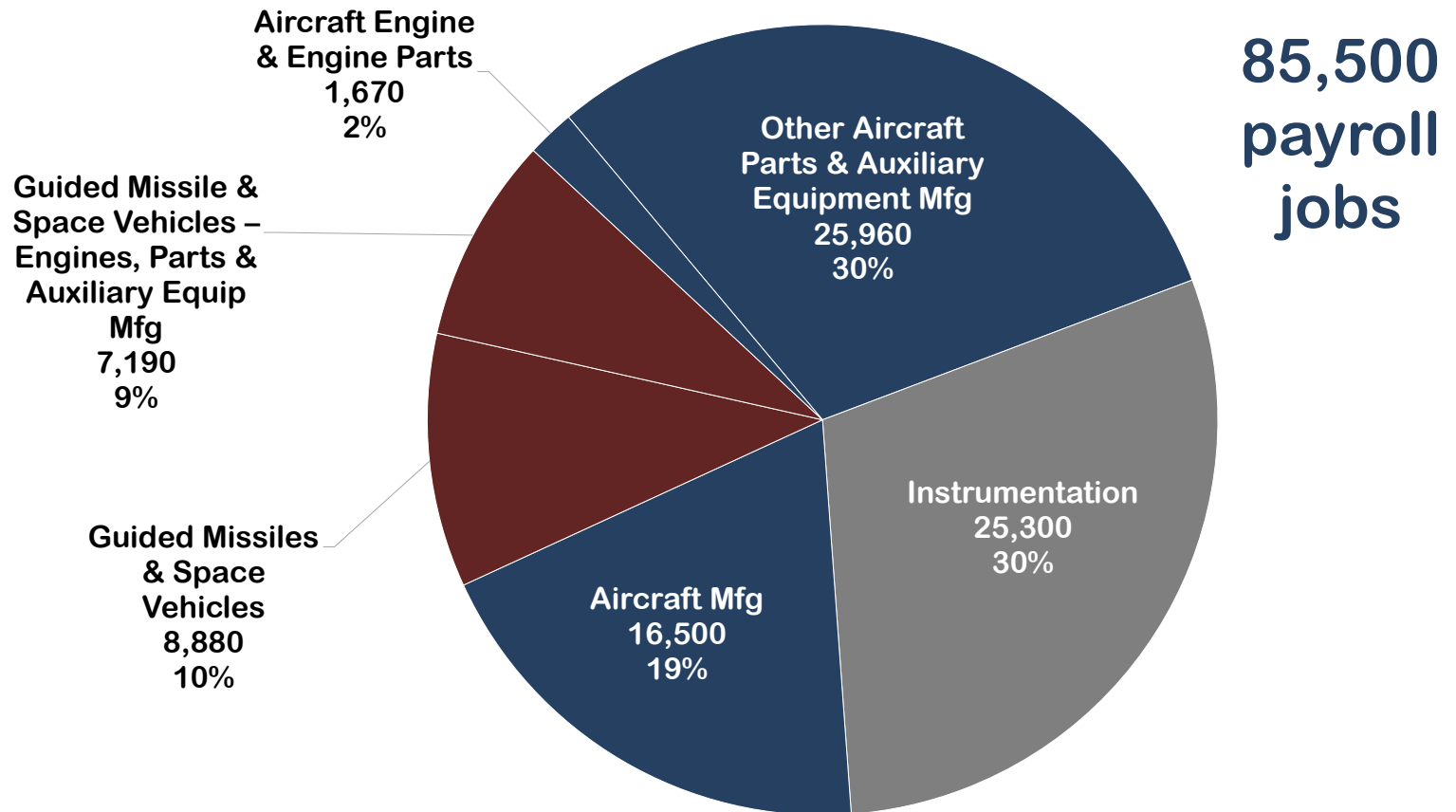


## Aerospace Industry



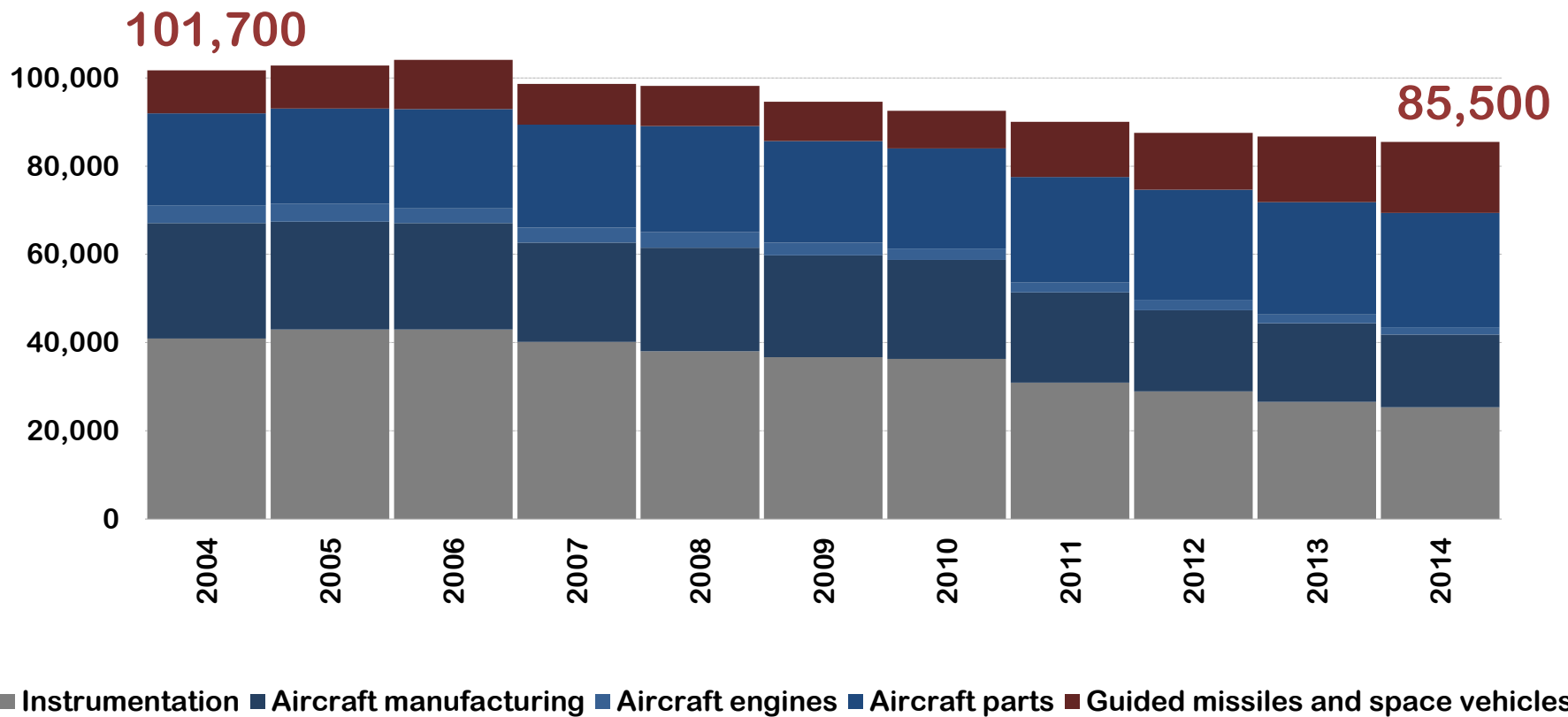


## Aerospace Payroll Employment 2014





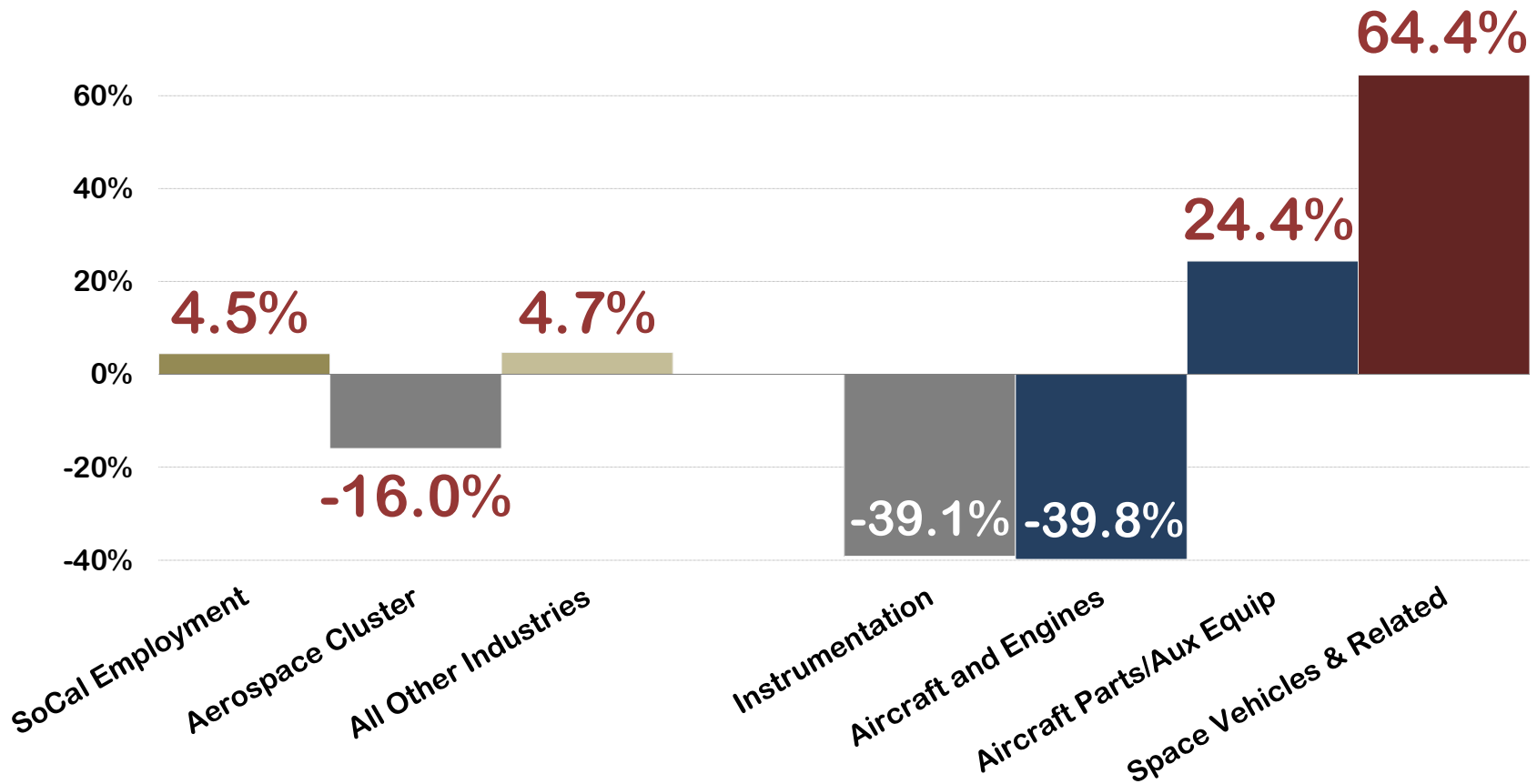
## Southern California Aerospace Employment



# THE CHANGING FACE OF AEROSPACE *in* SOUTHERN CALIFORNIA



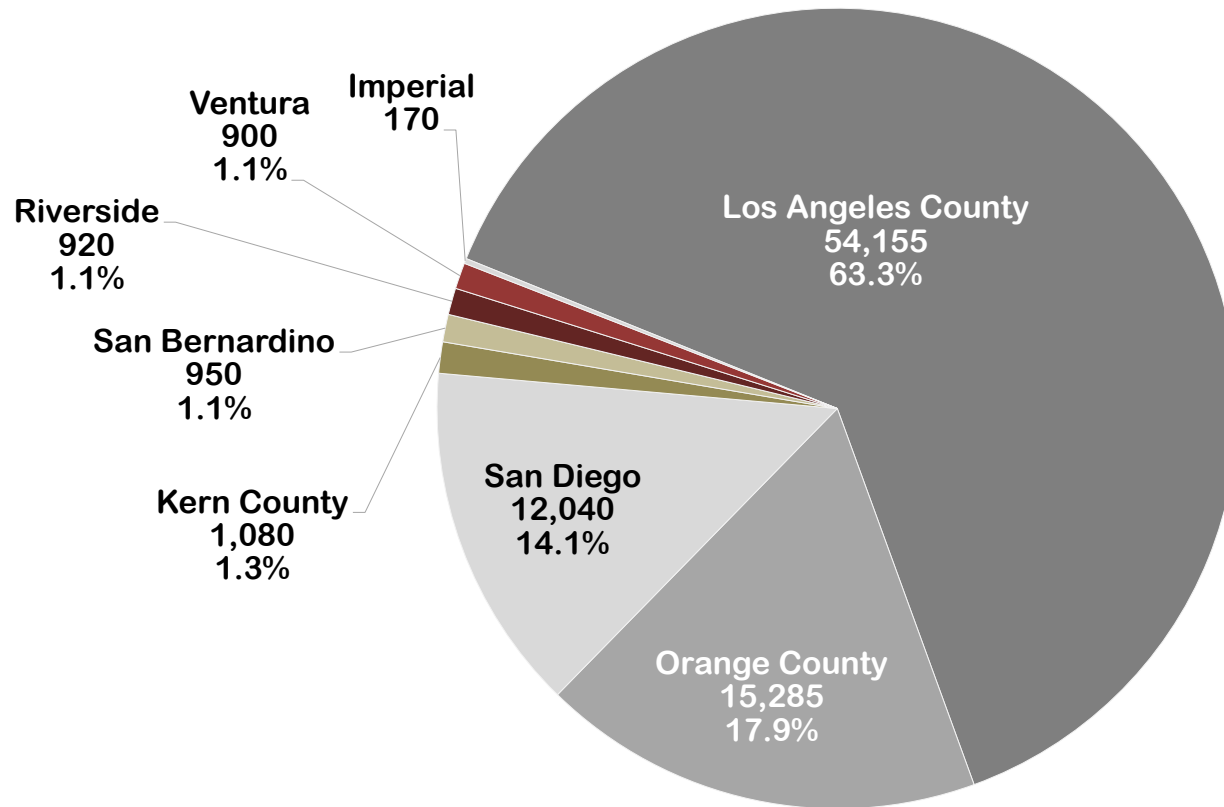
## Employment Growth Since 2004







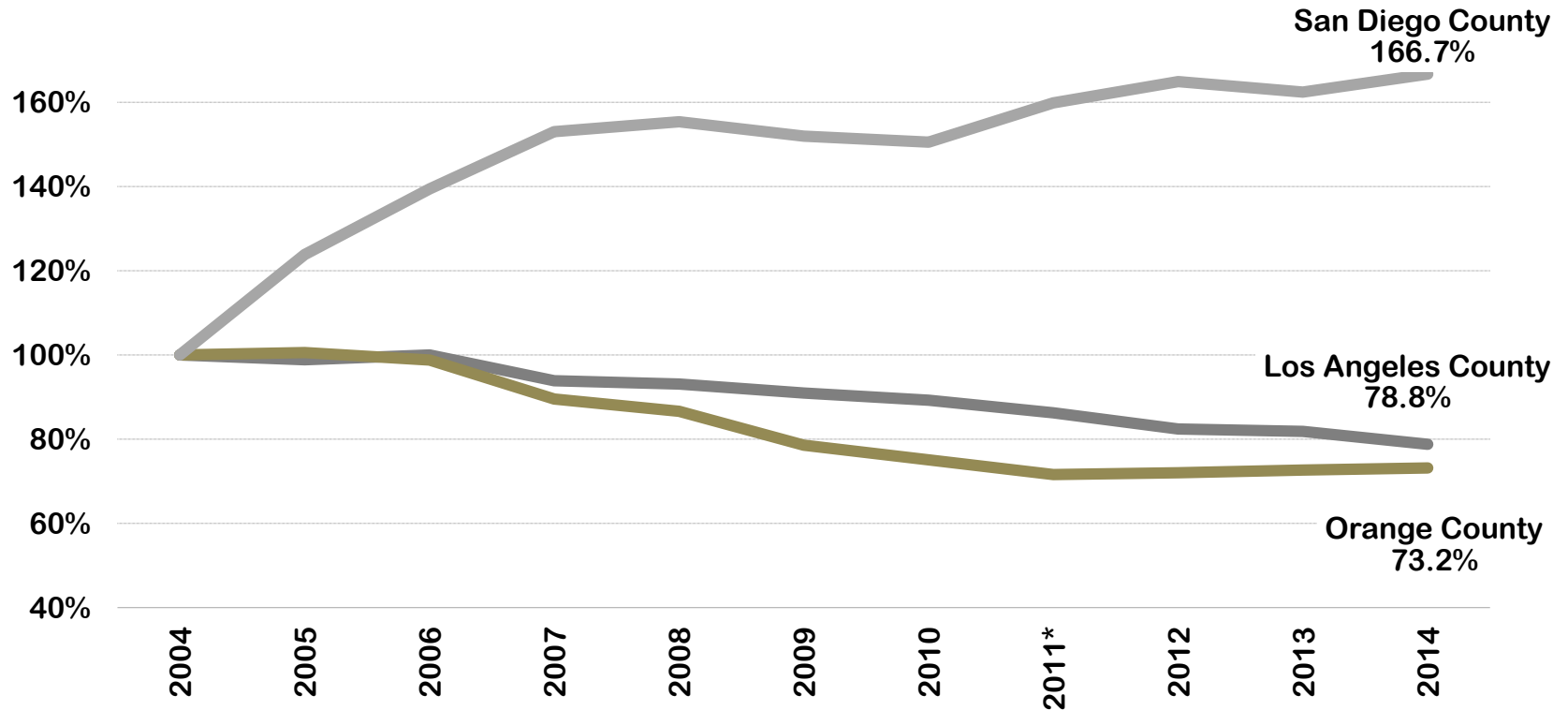
## Employment by County 2014



# THE CHANGING FACE OF AEROSPACE *in* SOUTHERN CALIFORNIA

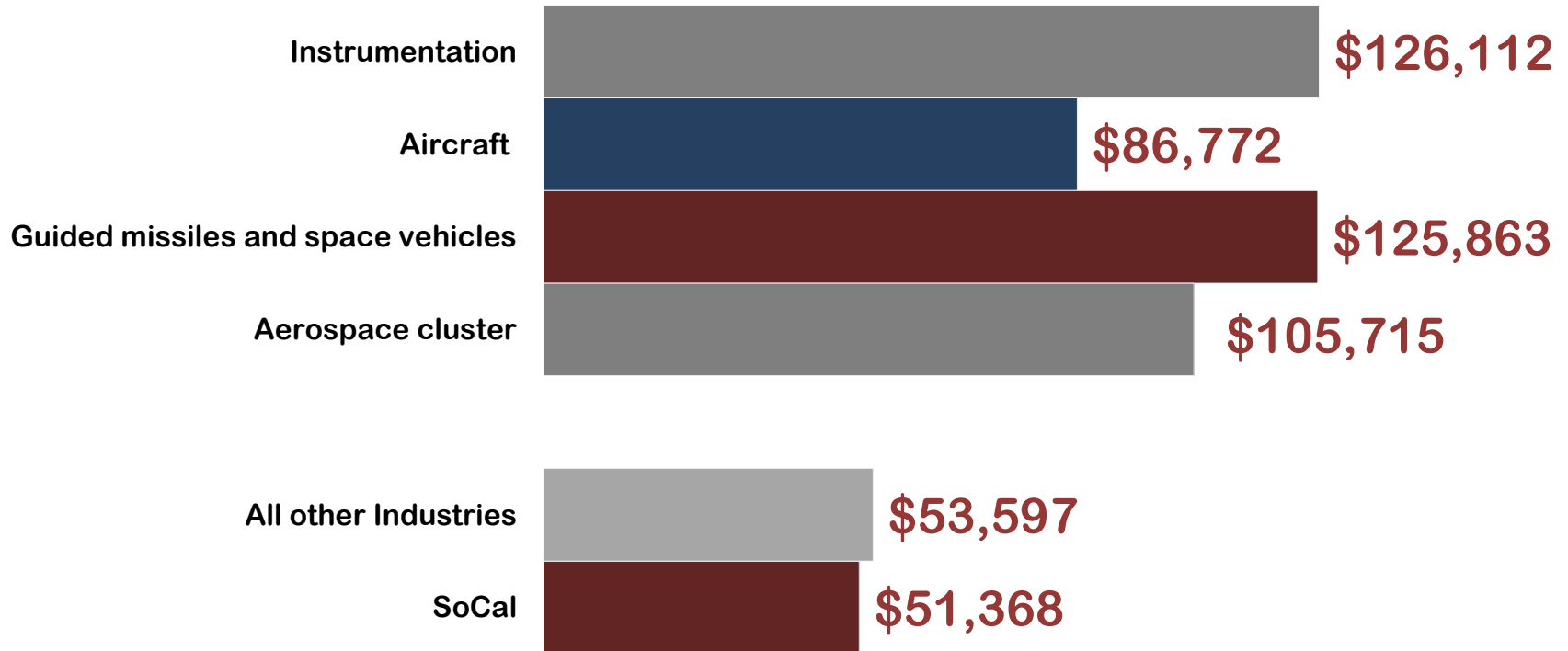


## Employment Growth by County





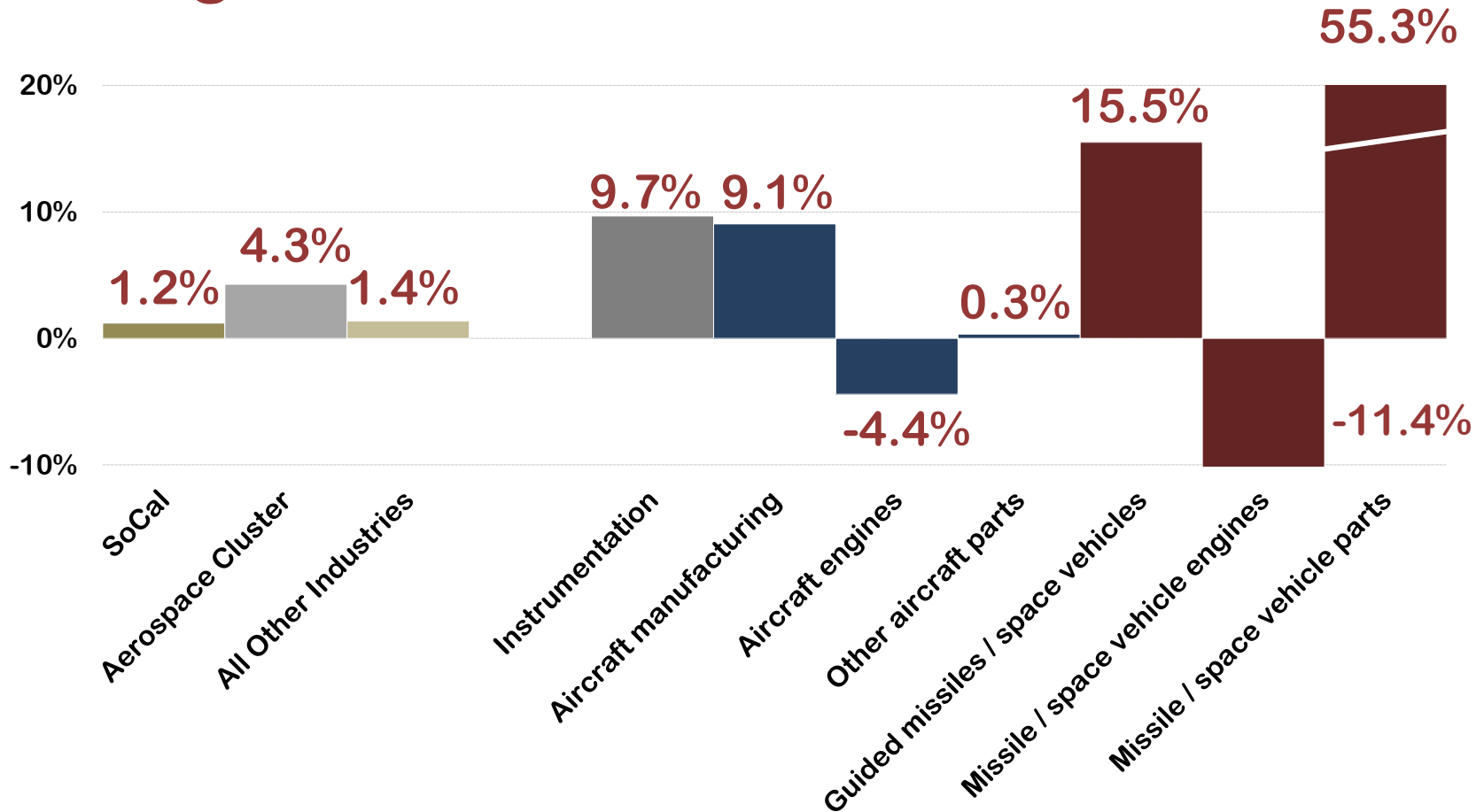
## Average Annual Earnings in 2014



# THE CHANGING FACE OF AEROSPACE *in* SOUTHERN CALIFORNIA



## Real Wage Growth Since 2004



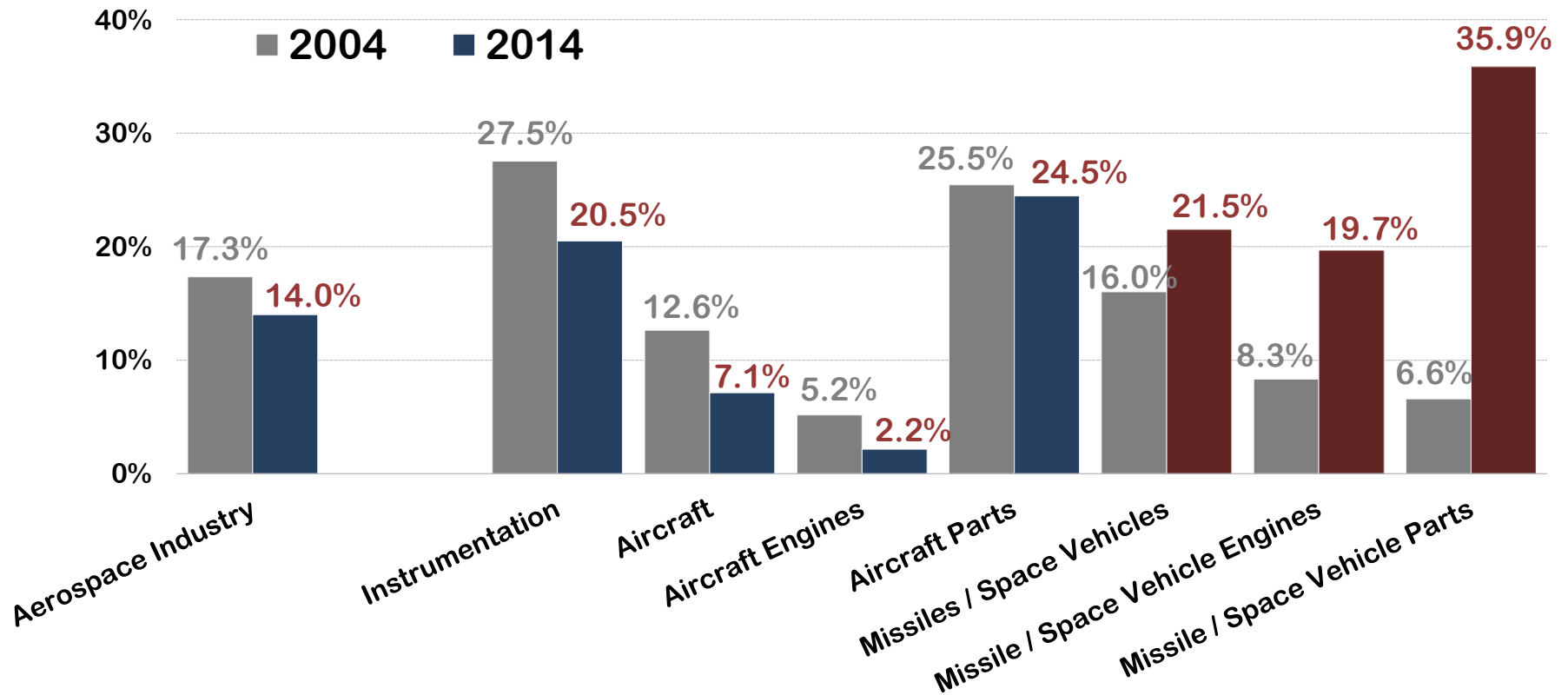


# Employment Location Quotients

|   | Location Quotient 2014 | Change Since 2004 |
|---|------------------------|-------------------|
| <b><u>Instrumentation:</u></b>  | 3.13                   | ↓                 |
| <b><u>Aircraft:</u></b>   |                        |                   |
| Aircraft manufacturing  | 1.09                   | ↓                 |
| Aircraft engine and engine parts manufacturing                        | 0.33                   | ↓                 |
| Other aircraft parts and auxiliary equipment manufacturing            | 3.74                   | ↓                 |
| <i>Subcluster</i>   | 1.62                   | ↓                 |
| <b><u>Guided missiles and space vehicles:</u></b>                     |                        |                   |
| Guided missile and space vehicle manufacturing                        | 2.47                   | ↑↑                |
| Guided missile /space vehicle propulsion units /propulsion unit parts | 7.58                   | ↑↑                |
| Other guided missile /space vehicle parts /auxiliary equipment        | 5.49                   | ↑↑                |
| <i>Subcluster</i>   | 3.45                   | ↑                 |
| <b>TOTAL</b>  | 2.14                   | ↓                 |



## SoCal Share of National Aerospace Employment



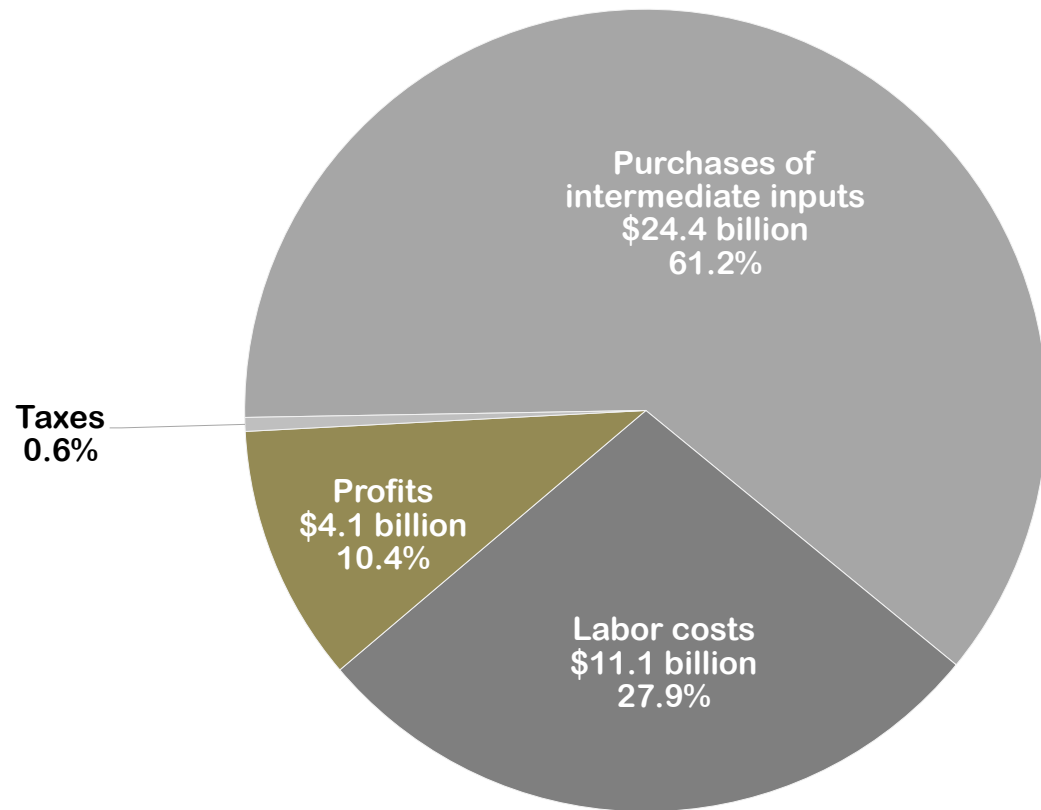
THE CHANGING FACE OF AEROSPACE  
*in*  
SOUTHERN CALIFORNIA



# Spreading the Wealth.



## Composition of Outlays 2014



**Total Outlays:**  
**\$39.9 billion**





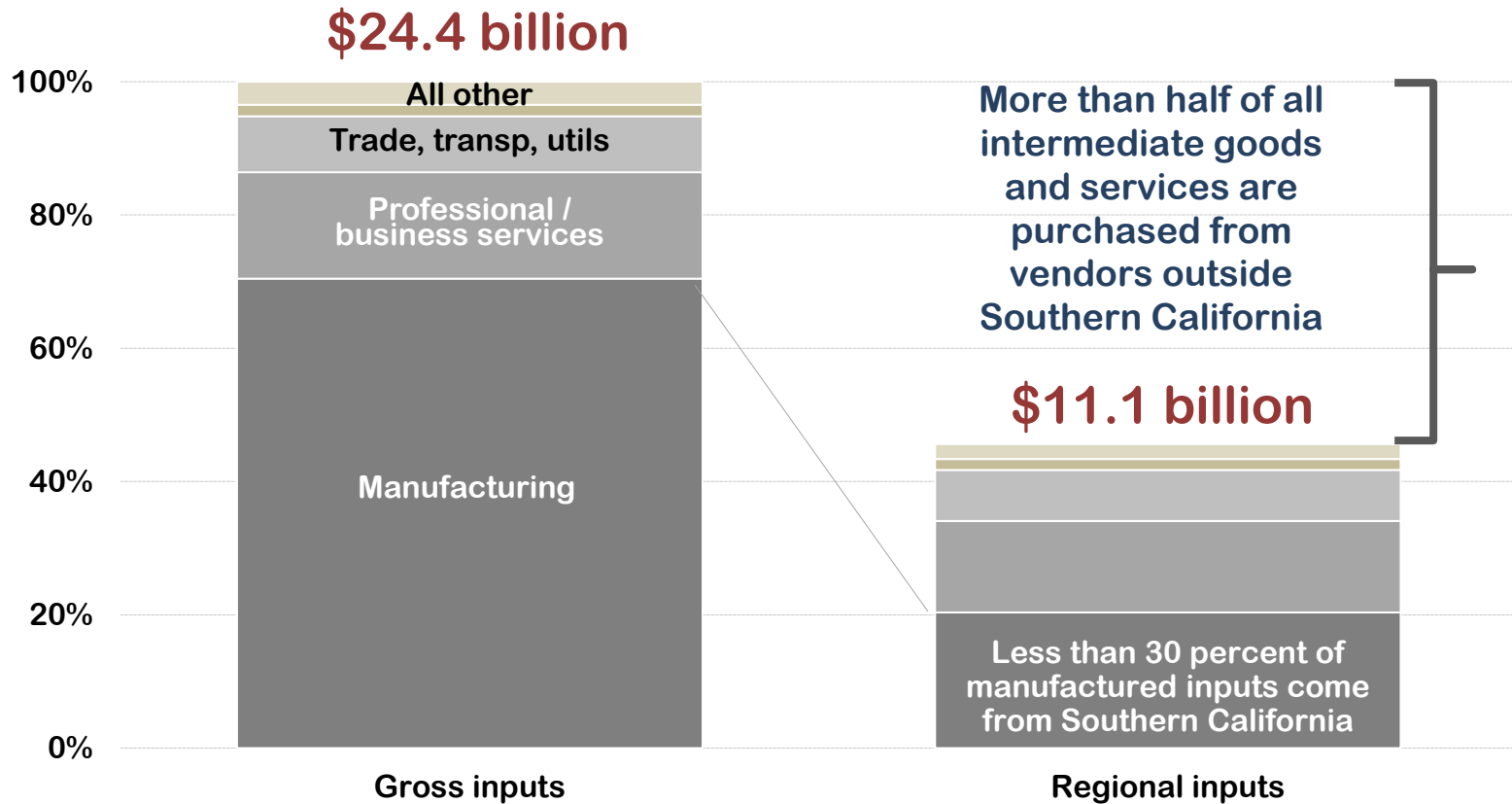
## Aerospace Industry Economic Contribution

### ✓ 85,500 payroll jobs

- 245,770 total jobs
- \$20.3 billion labor income
- 2.4 percent of SoCal GDP
- \$7 billion S/L taxes

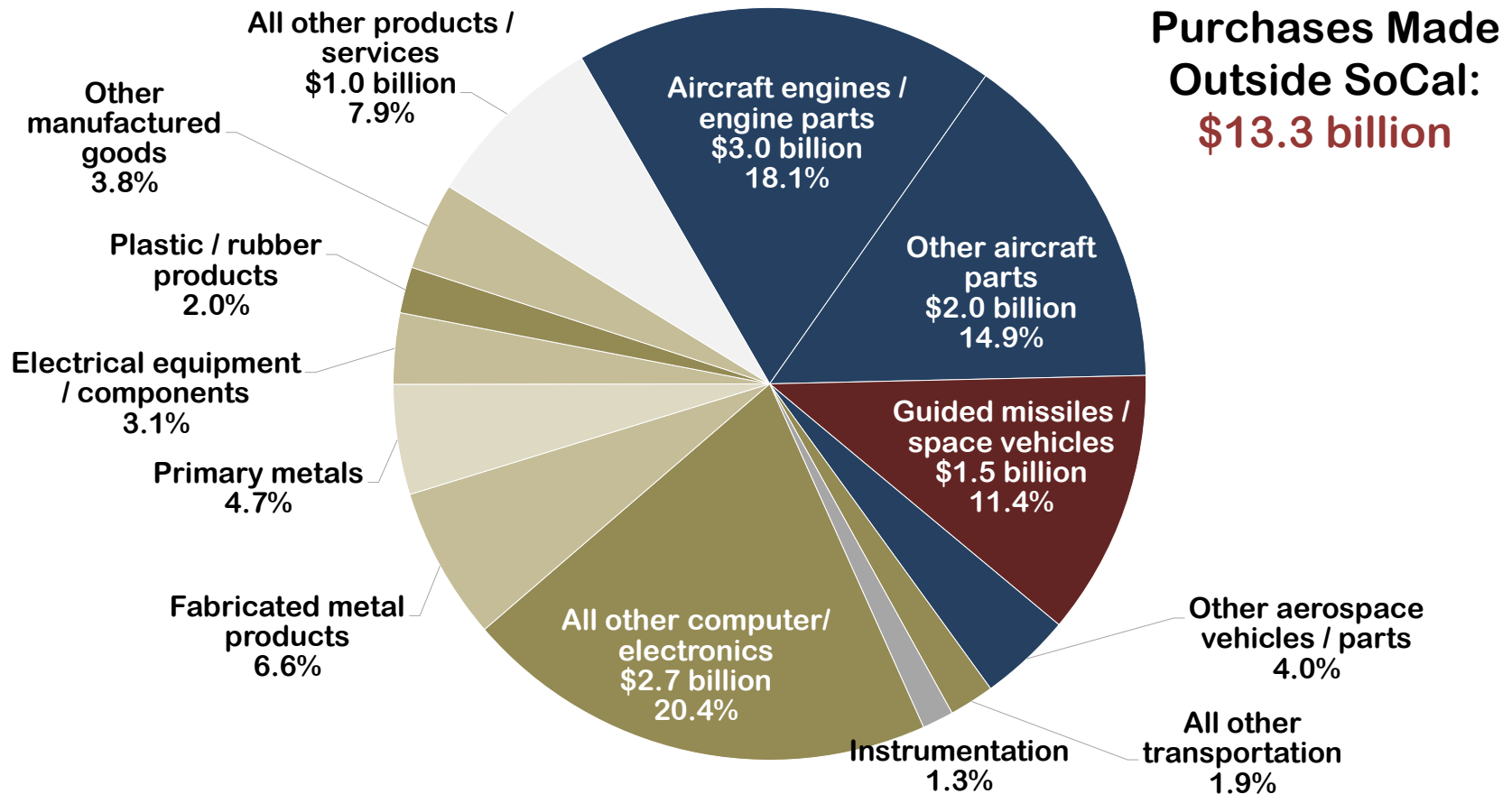


## Regional Provision of Intermediate Inputs





## Regional Purchase Gap by Input



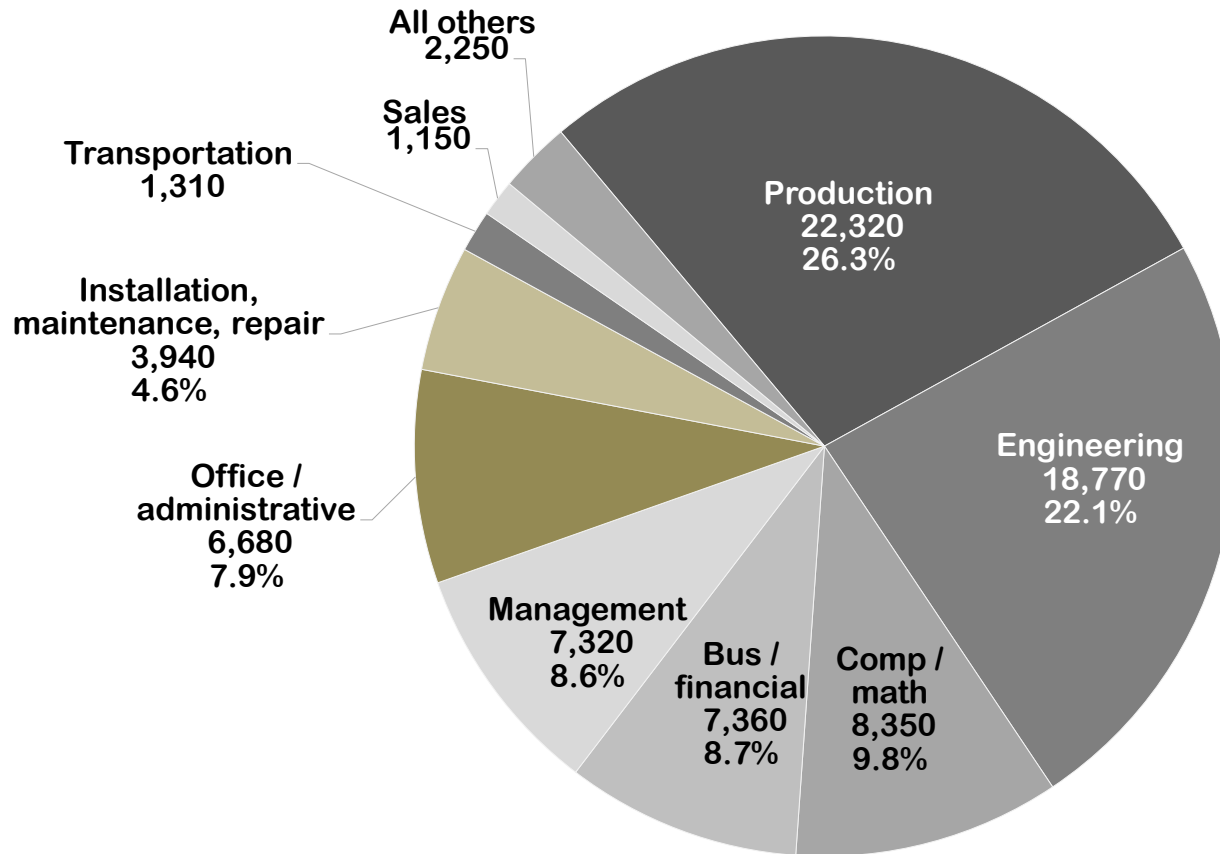
THE CHANGING FACE OF AEROSPACE  
*in*  
SOUTHERN CALIFORNIA



**Work, Work, Work.**

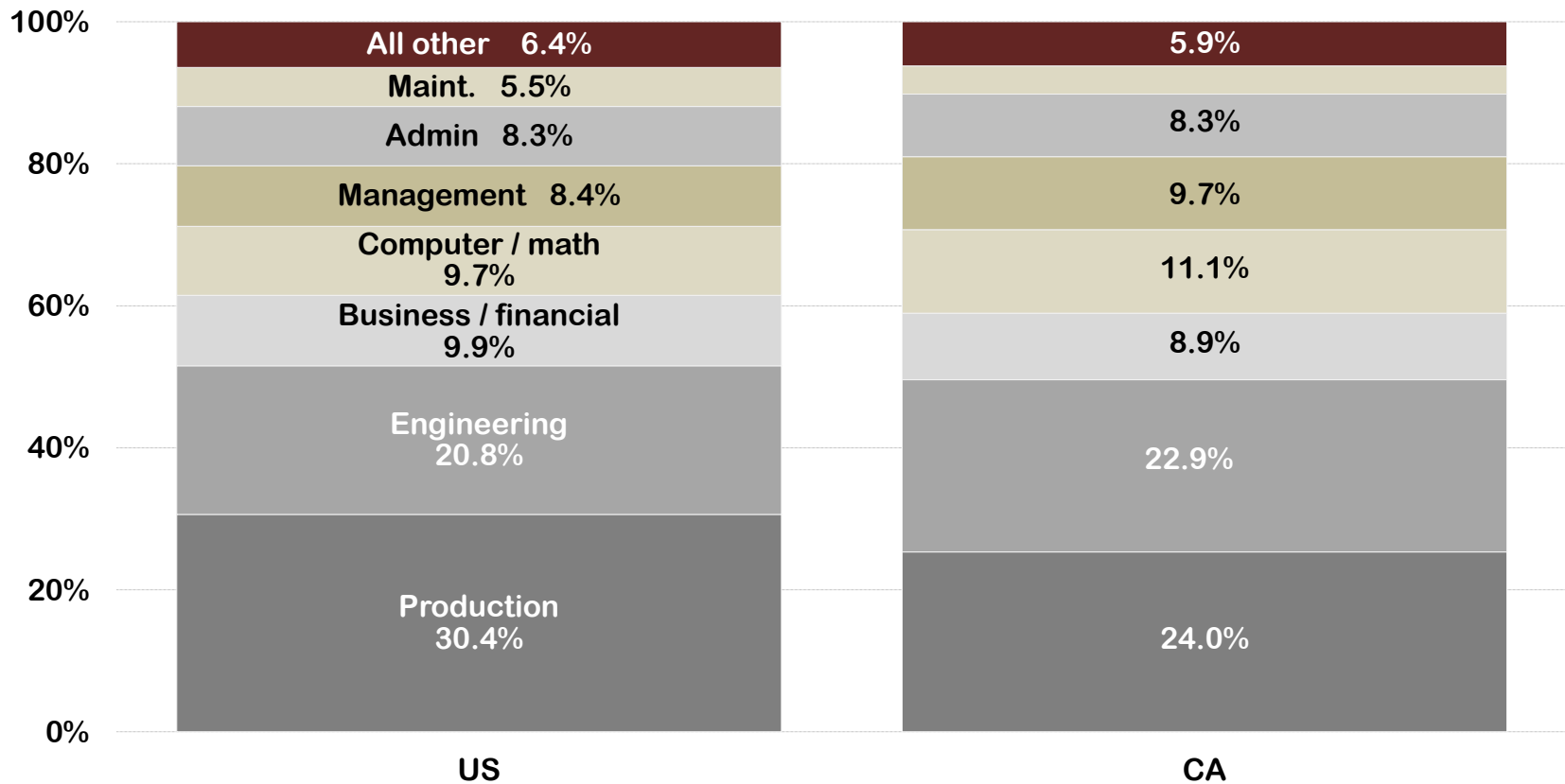


## Industry Occupations



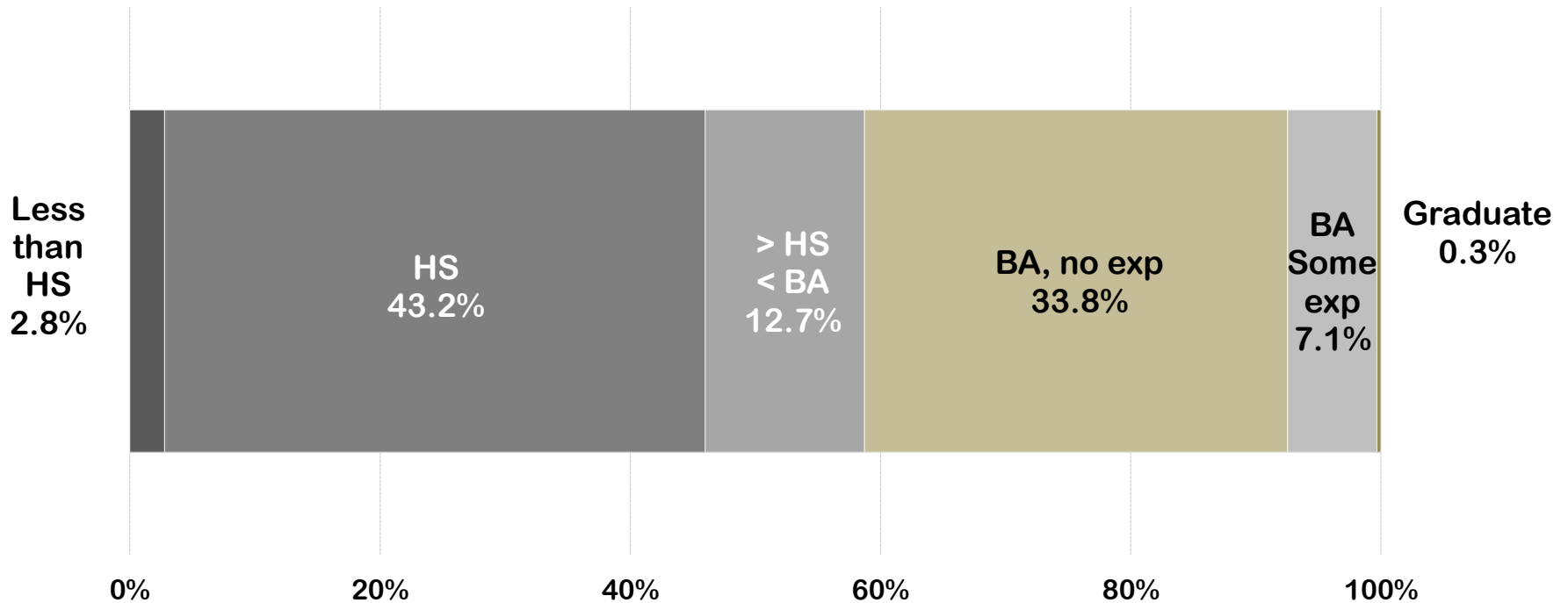


## Occupational Distribution USA vs CA 2014





## Entry Level Requirement (next 5 years)



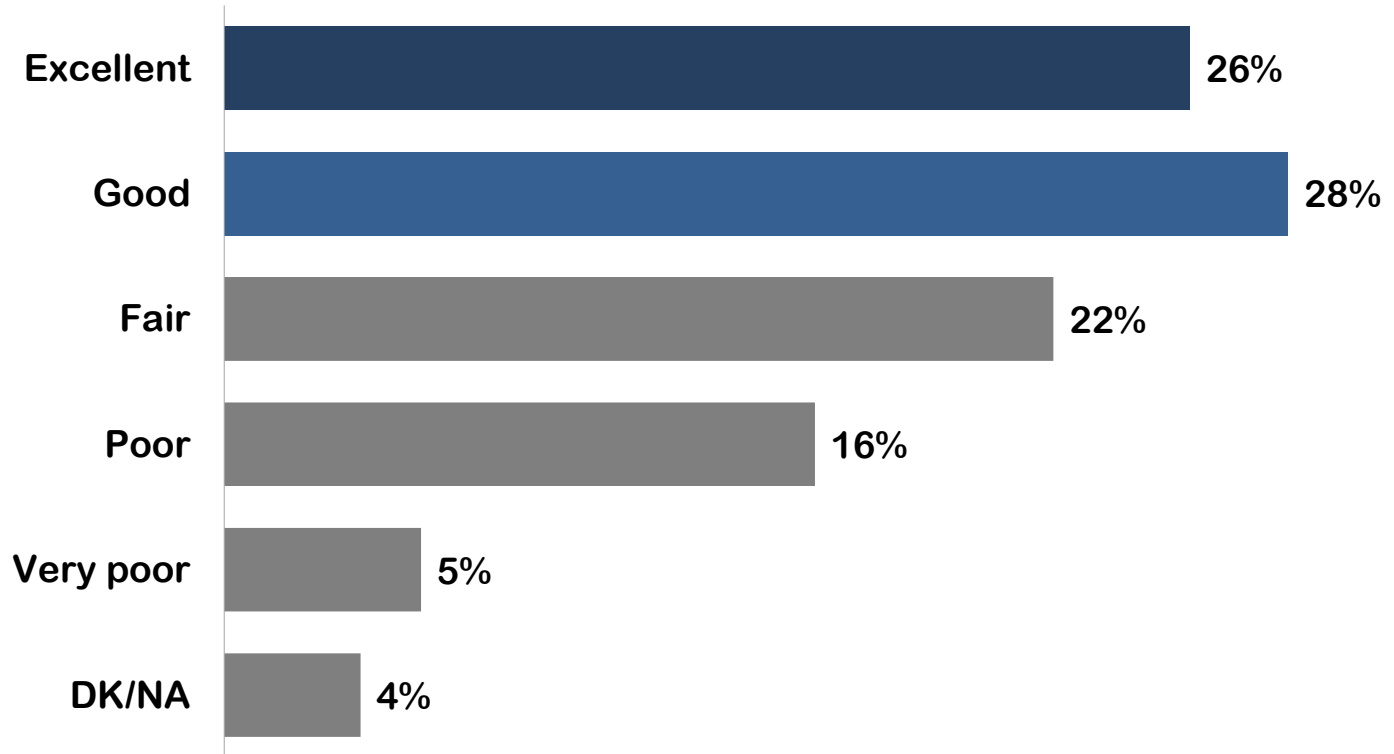


# What the Industry Says.



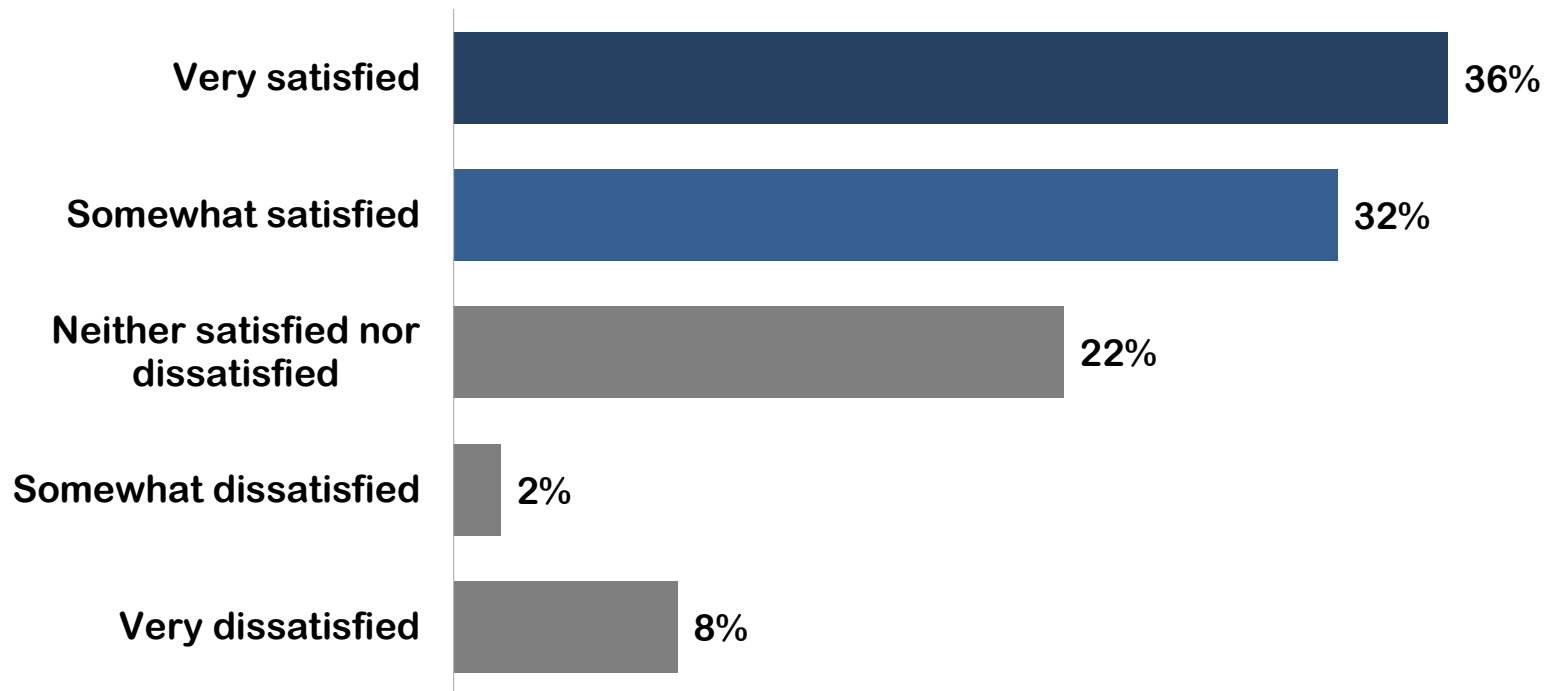


## “How would you rate Southern California as a place for aerospace firms to do business?”





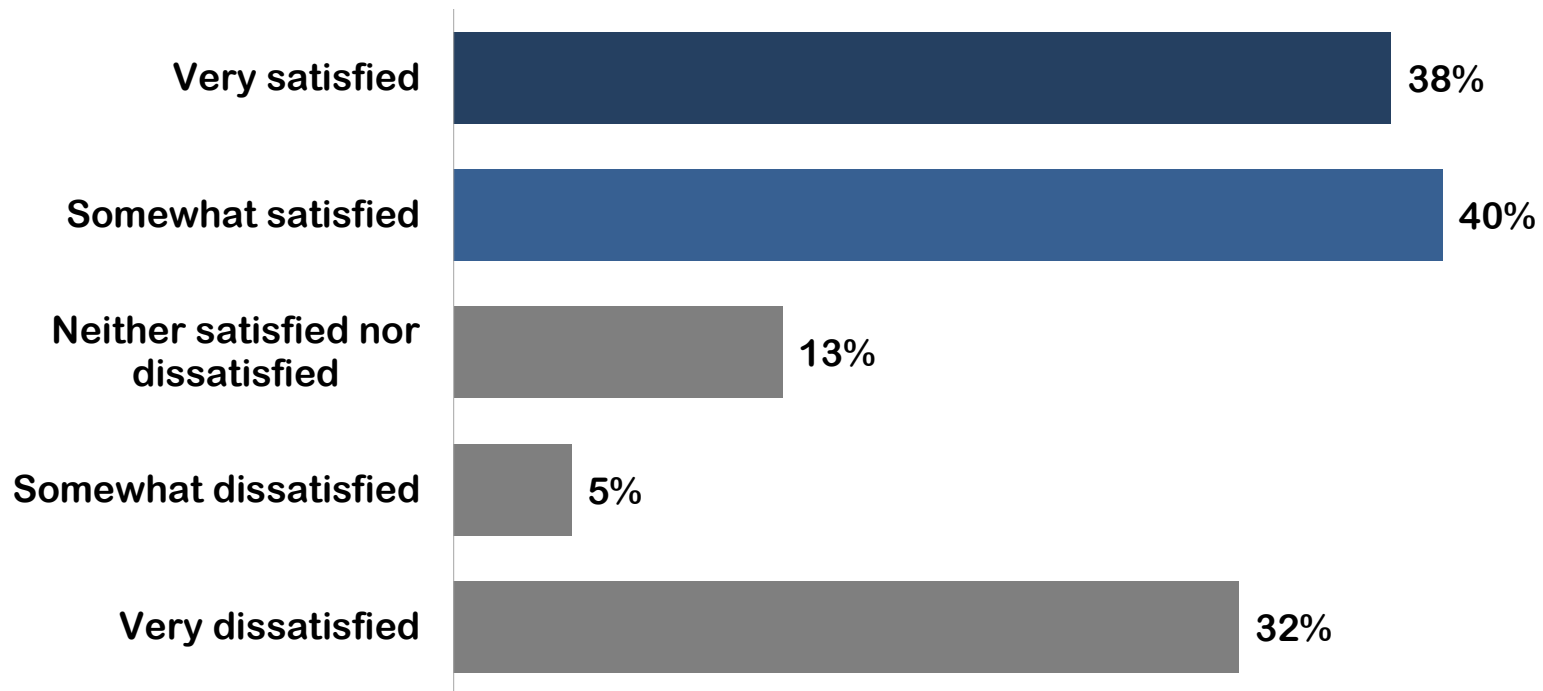
## “How satisfied is your firm with your access to capital in Southern California?”



Of those stating an opinion



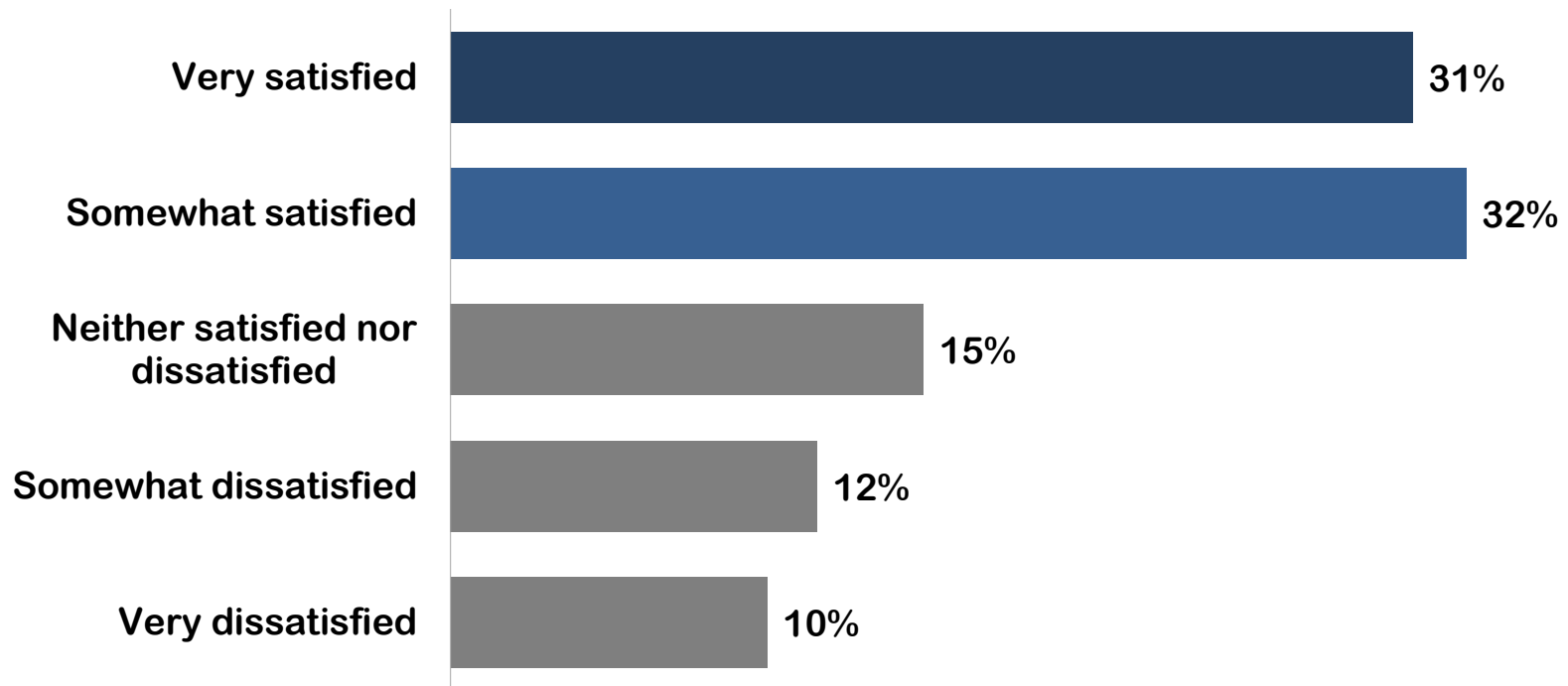
## “How satisfied is your firm with your access to customers in Southern California?”



Of those stating an opinion



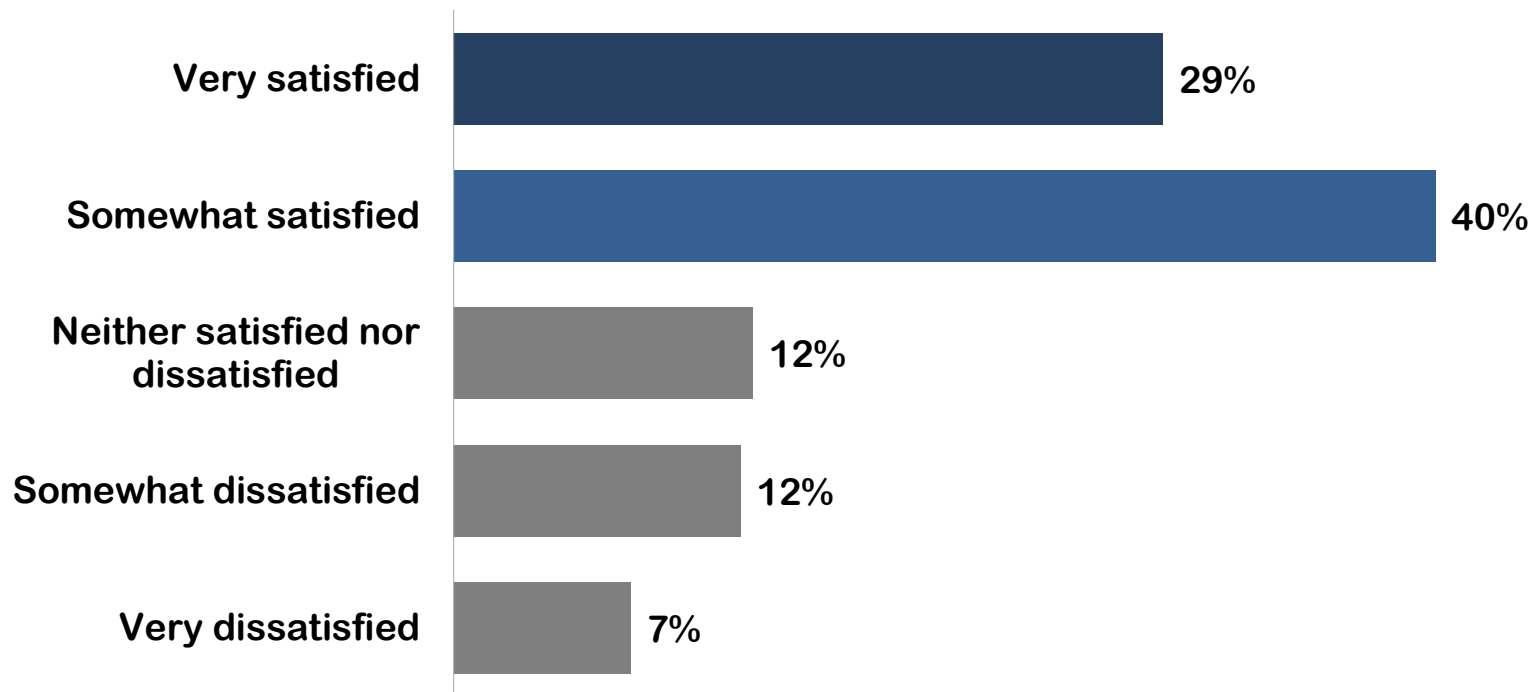
## “How satisfied is your firm with your ability to recruit highly-skilled talent in Southern California?”



Of those stating an opinion



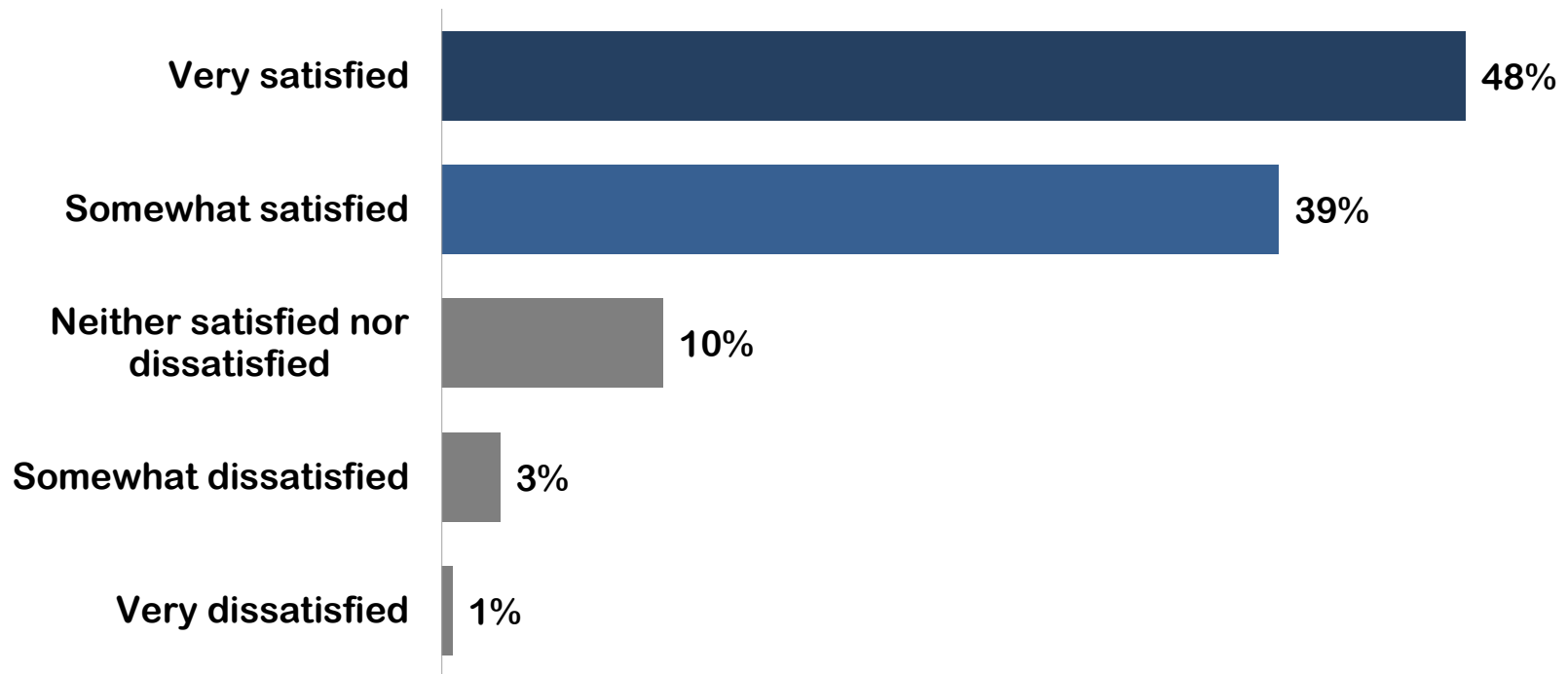
## “How satisfied is your firm with your ability to find qualified entry / mid-level talent in Southern California?”



Of those stating an opinion



## “How satisfied is your firm with your access to suppliers in Southern California?”

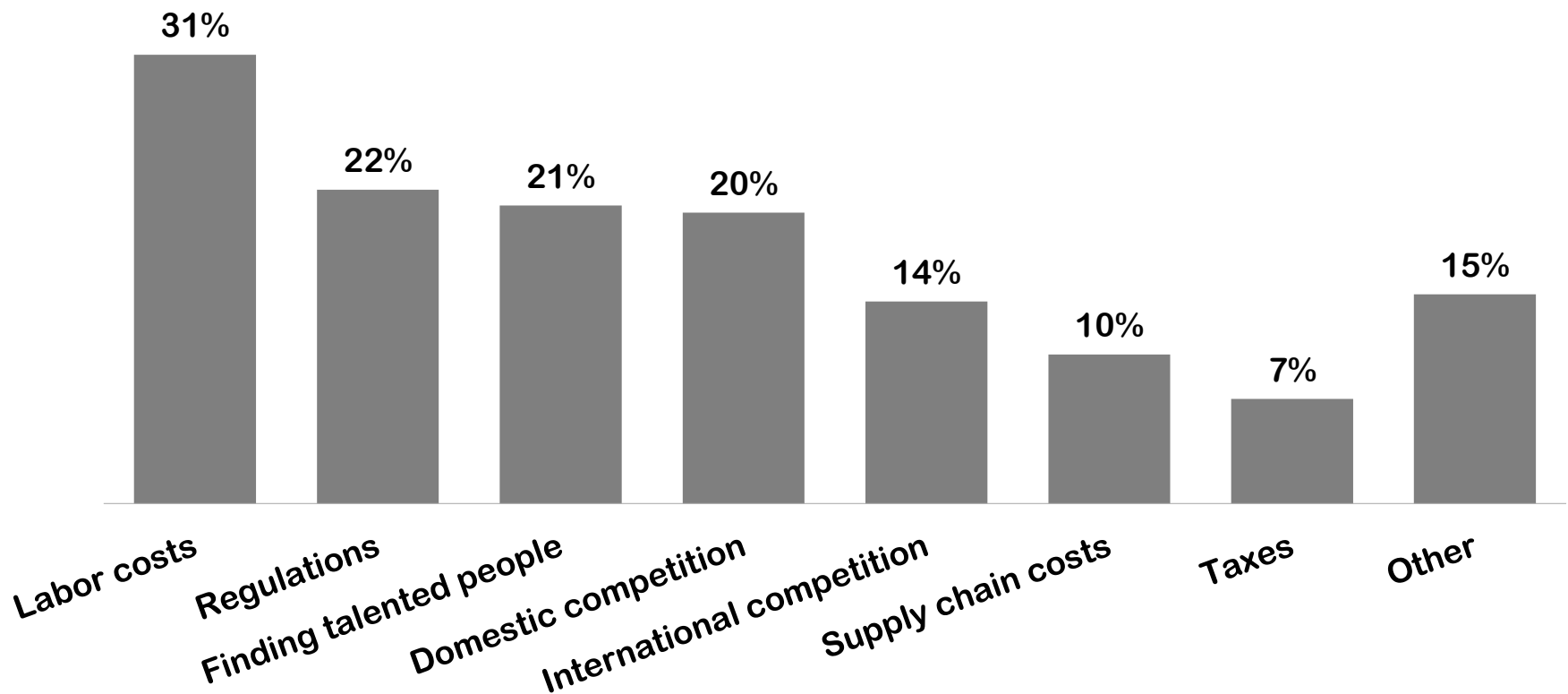


Of those stating an opinion

# THE CHANGING FACE OF AEROSPACE *in* SOUTHERN CALIFORNIA



## “What are the biggest challenges to being located in Southern California?”



Multiple responses allowed. Percentages may sum to more than 100%.



# Strengths of Southern California:

“Diverse and professional **ecosystem**”

“Higher education resources”

“Quality of life”

“Spirit of **risk-taking** and **innovation**”



THE CHANGING FACE OF AEROSPACE  
*in*  
SOUTHERN CALIFORNIA



# Take-Aways?



The industry's **deep roots**,  
**established infrastructure** and  
**forward-thinking** new **pioneers** will  
ensure a **vibrant** and **robust future** for  
aerospace in **Southern California**.

# THE CHANGING FACE OF AEROSPACE

*in*

# SOUTHERN CALIFORNIA

▲ THE FUTURE IS HERE



INSTITUTE FOR APPLIED ECONOMICS

