

TESLA

MISSION

Accelerate The World's Transition to **Sustainable Energy**

TESLA MASTER PLAN



Low Volume

ROADSTER - 2008



Mid Volume

MODEL S - 2012 | MODEL X - 2015



High Volume

MODEL 3 - 2017

SOLARGLASS ROOF



CYBERTRUCK



+14,000lbs Tow Capacity



Stainless Steel Exoskeleton



+500 Mile Range

GIGAFACTORY NEVADA



\$5B Capital Investment

13,000+ Full-time Jobs Onsite
15,000+ Construction Jobs

Exceeded Expectations in All Categories,
According to Governor's Office of
Economic Development

FREMONT FACTORY



\$3B+ Investment to
Modernize Factory

10,000+ Jobs at Fremont
20,000 Jobs in California

Supporting 30,000+
Indirect Jobs

FREMONT FACTORY

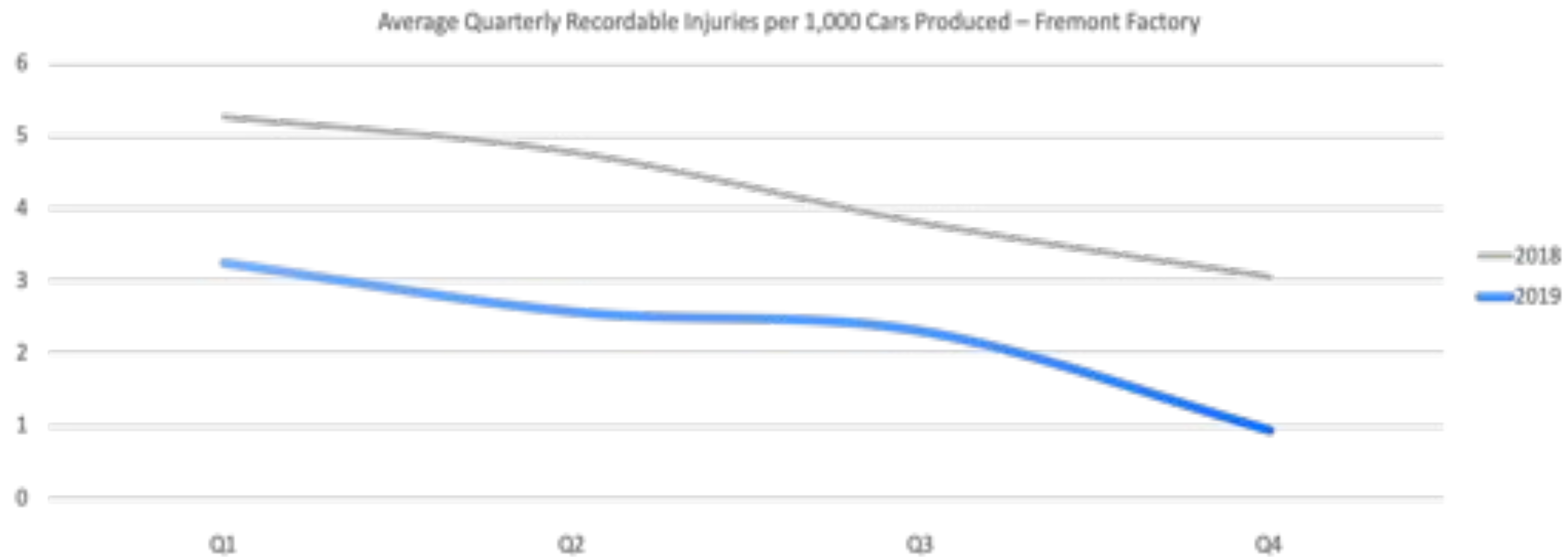


\$635M in Total New York State

1,800+ Jobs in Q1

Prior to COVID-19, Exceeded
Investment & Employment Targets

WORKPLACE SAFETY AT FREMONT IN 2019



Rate of Injury Per Vehicle
Reduced Year-Over-Year

Associates Spent Less Time Away
Due to Injury or Illness

Total Recordable Injury Rate (TRIR):
Better than Industry Average

TESLA

COVID-19 SAFETY



Increased **cleaning** and **disinfection** in work areas, common areas, customer areas, buses and vans



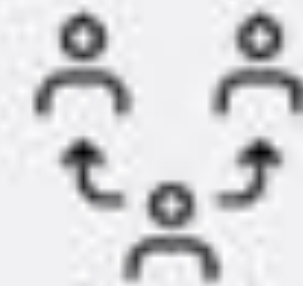
Producing and **providing disinfectant** to use in work areas wherever possible



Enforcing **social distancing** and adding barriers, PPE or other precautions where needed



Controlling access to our facilities and implementing **temperature checks** or other symptom screenings at some locations



Adjusting work shifts in some areas to reduce the number of people in a particular area at one time



Implemented **company-wide procedures** for suspected or confirmed COVID cases



Reduced shuttle occupancy to 50% or lower to enable social distancing



Providing **personal protective equipment (PPE)** including face coverings and gloves in some areas



Implemented **"touchless"** services for those who have direct customer interactions



Suspended visitors and tours in most locations

EMPLOYEE BENEFITS

- Opportunity to Become a Tesla Shareholder
- Five Medical/Rx Plans, including three options with no payroll deduction
- Dental and Vision Plans
- Employer Paid Life Insurance / AD&D
- Employer Paid Short- and Long-Term Disability Insurance Health Care & Dependent Care Accounts
- Paid Maternity & Paternity Leave after 1 Year of Employment: 16 Weeks/7 Weeks
- \$130 Per Month Commuter Allowance
- Free Tesla Shuttle Service to and from Factory

EMPLOYEE SHUTTLE SERVICE



No Cost to Employees



6,000+ Daily Riders in Bay Area in 2019



Schedule Aligned to Shifts

CULTURE OF DIVERSITY & INCLUSION



100% Rating on Human Rights
Campaign Corporate Equality Index

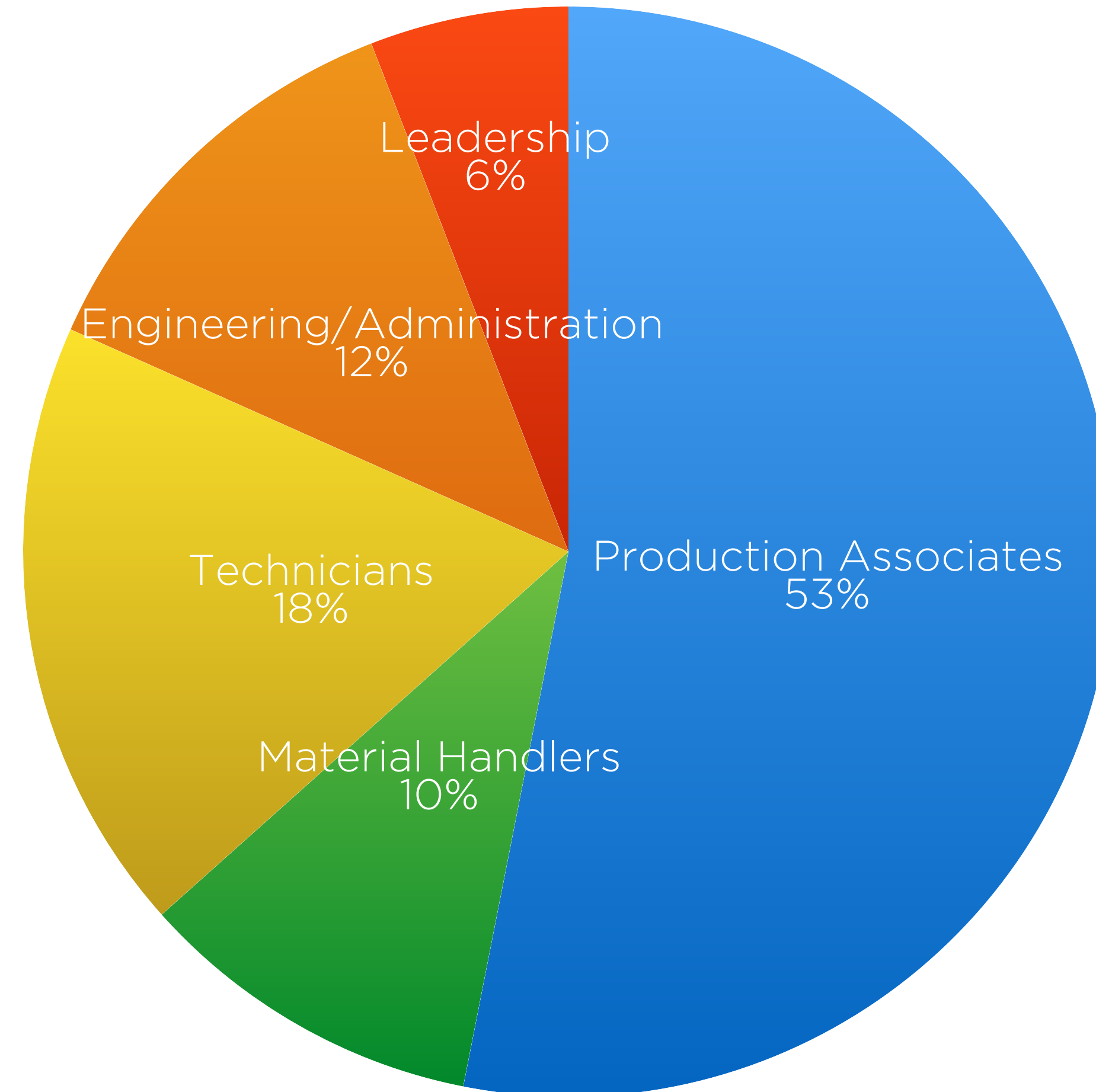
Majority-Minority
Company

Community Relations + Diversity
& Inclusion Partners at Every Factory

WORKFORCE DEVELOPMENT



WORKFORCE DEVELOPMENT



Gigafactory Nevada -
Current Workforce

WORKFORCE DEVELOPMENT



Continuing Education



High School & Collegiate Pipelines



K-12 Partnerships

CONTINUING EDUCATION



500 team members



1,200 college credits completed



80 program graduates

HIGH SCHOOL GRADUATE PIPELINE



High School Engagement



Career Progression



Continuing Education

MANUFACTURING DEVELOPMENT PROGRAM



Information Sessions



Gigafactory Visits



Signing Days

START

TESLA START



12-week curriculum



Tesla Instructors



Hands-on Experience

TESLA START

300+

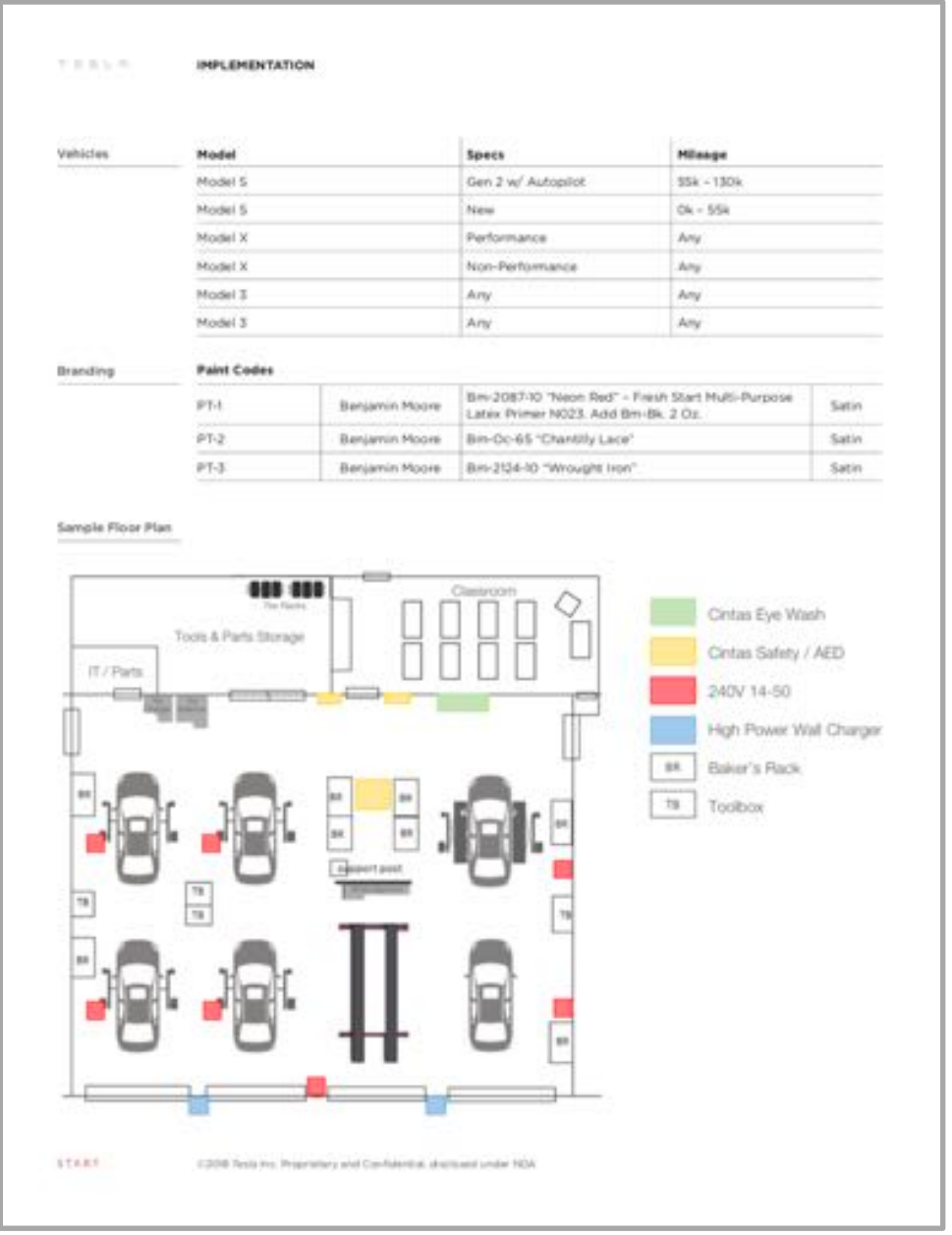
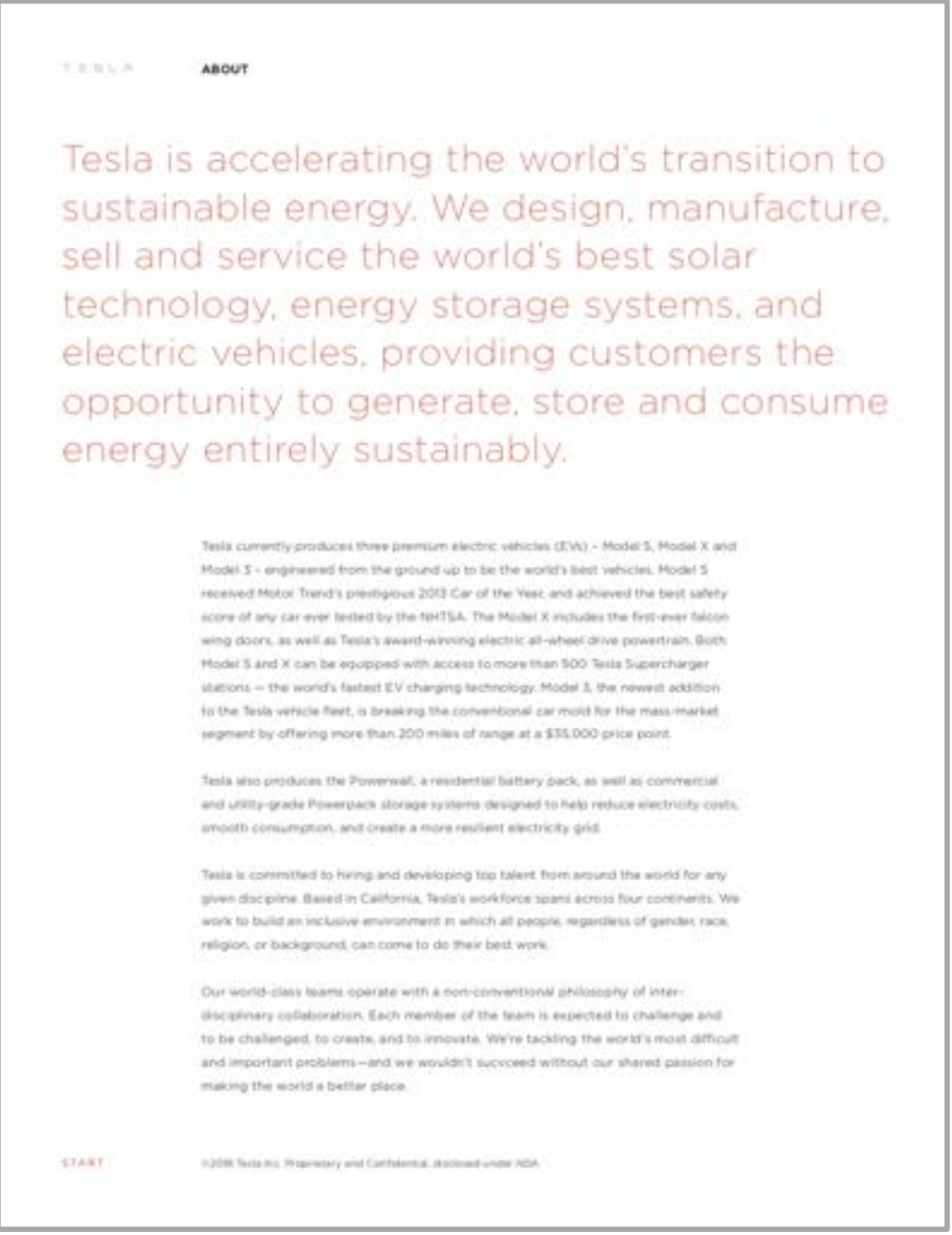
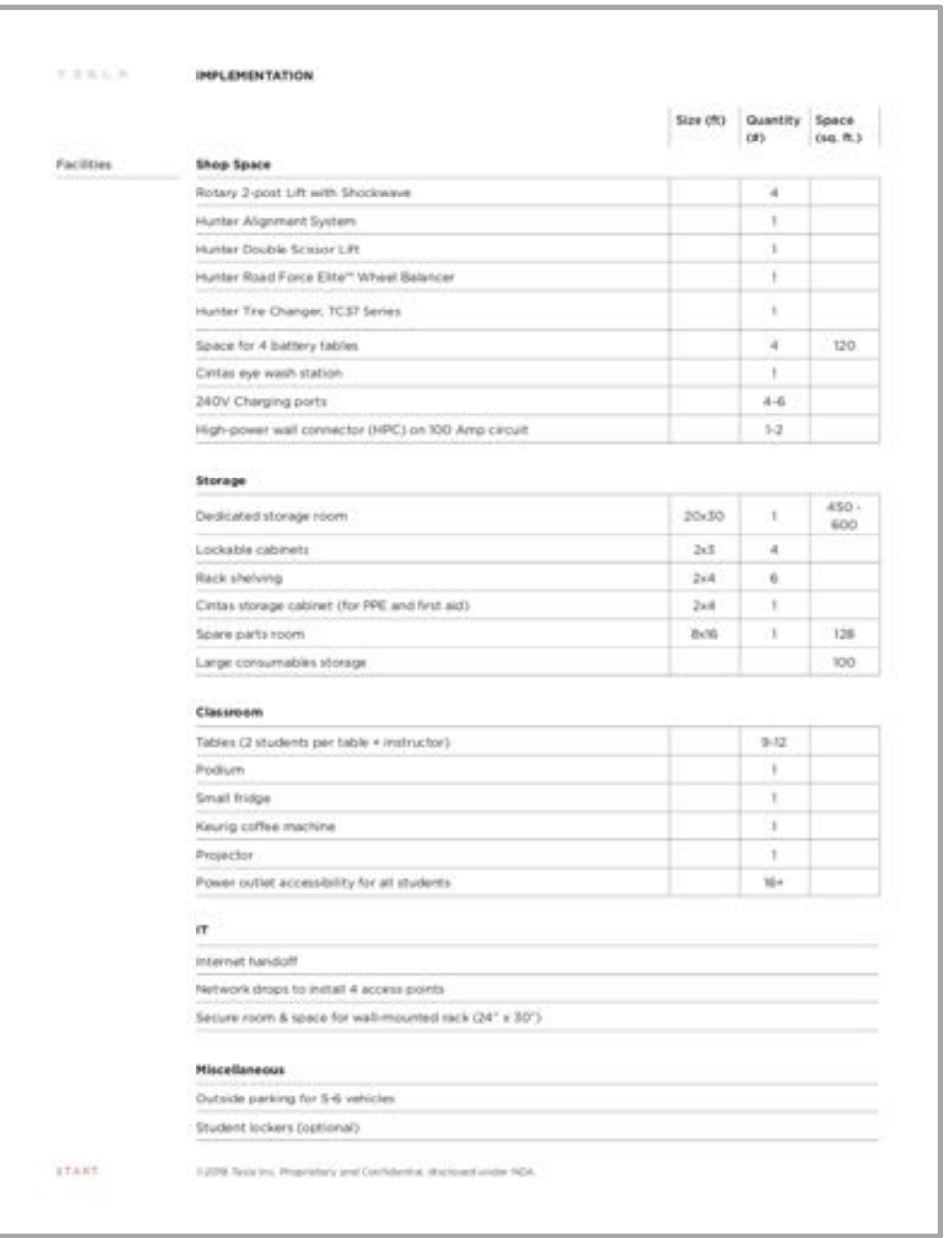
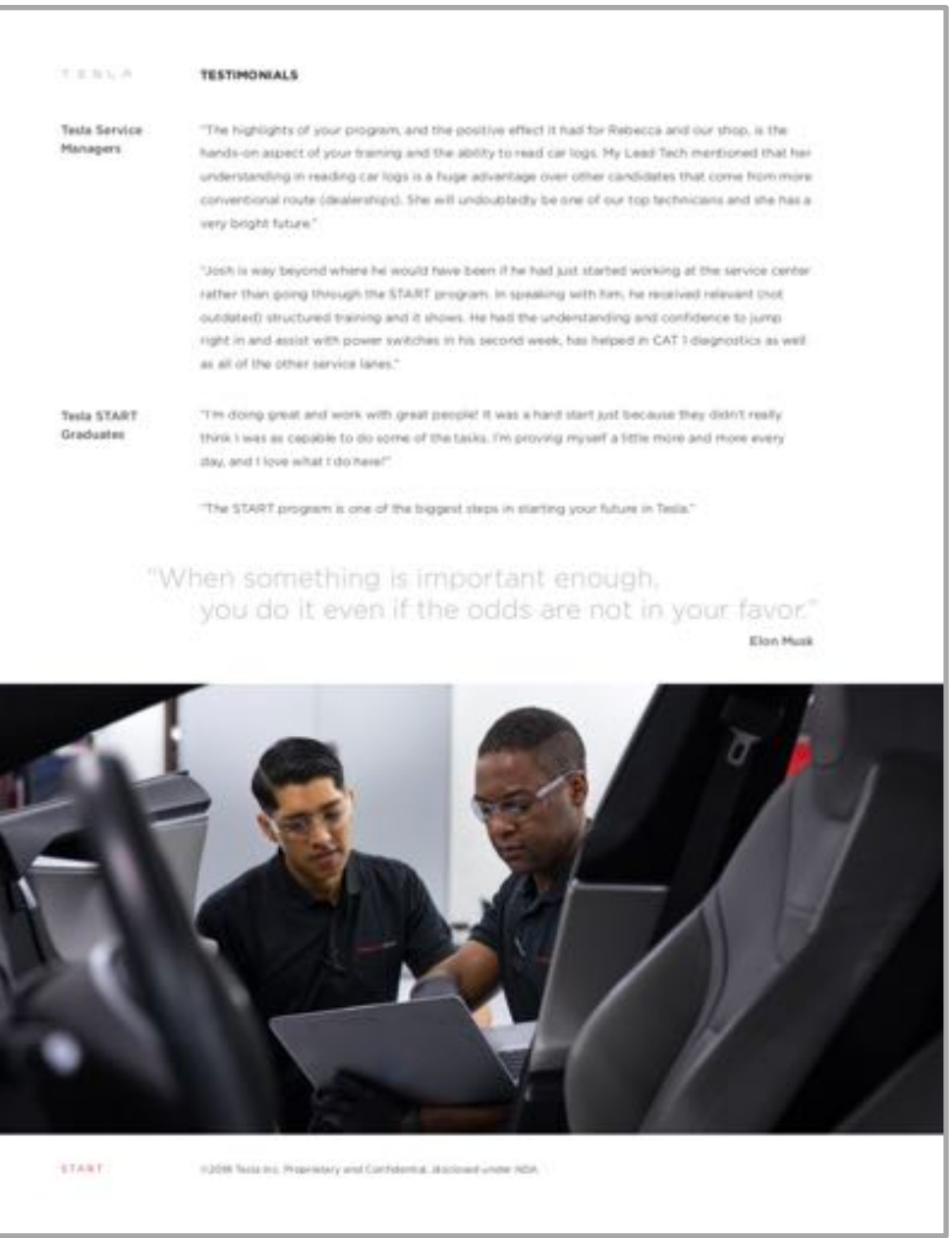
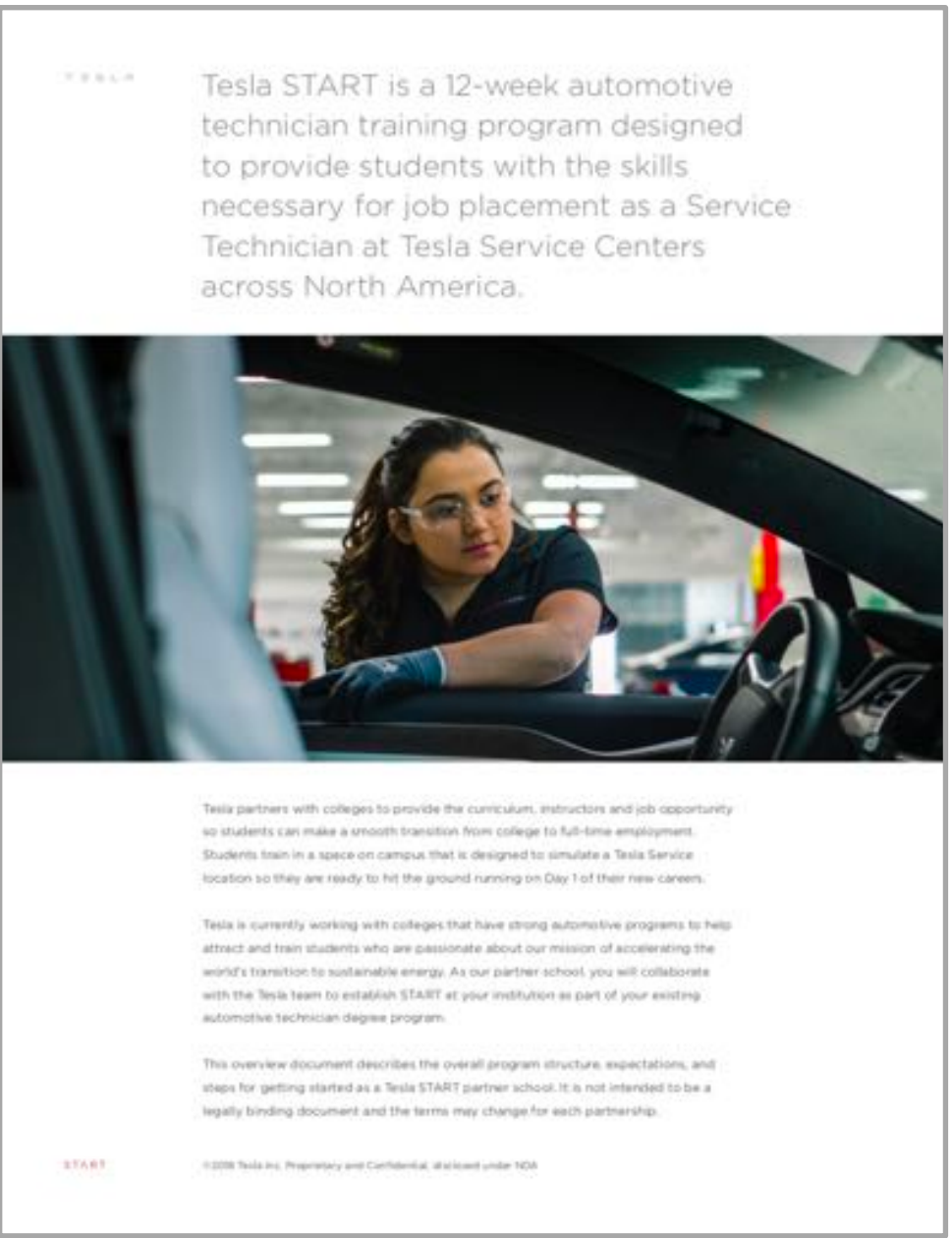
New Team Members

8

College Campuses

7

States



TESLA INTERNSHIP PROGRAMS





K-12 PARTNERSHIPS



Team Workshops



Teacher Development



Competition Support

K-12 PARTNERSHIPS



K-12 PARTNERSHIPS



K-12 PARTNERSHIPS

AUTOMATION TECHNOLOGY STANDARDS



This document was prepared by:

Office of Career Readiness, Adult Learning & Education Options
Nevada Department of Education
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July 19, 2018

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For inquiries, contact the Equity Coordinator at (775) 687-9200.

AUTOMATION TECHNOLOGY STANDARDS

2018

ACKNOWLEDGEMENTS

The development of Nevada career and technical standards and assessments is a collaborative effort sponsored by the Office of Career Readiness, Adult Learning & Education Options at the Department of Education and the Career and Technical Education Consortium of States. The Department of Education relies on teachers and industry representatives who have the technical expertise and teaching experience to develop standards and performance indicators that truly measure student skill attainment. Most important, however, is recognition of the time, expertise and great diligence provided by the writing team members in developing the career and technical standards for Automation Technology.

STANDARDS DEVELOPMENT MEMBERS

Clinton Barnes	Teacher	Cimarron-Memorial High School, Las Vegas
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Emily Howarth	Professor	Western Nevada College, Carson City
Ben Nguyen	Teacher	Sunrise Mountain High School, Las Vegas
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Randy Walden	MFG Specialist	GOED, Carson City

BUSINESS AND INDUSTRY VALIDATION

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives; or (2) a separate review panel was coordinated with industry experts to ensure the standards include the proper content; or (3) the adoption of nationally-recognized standards endorsed by business and industry.

The Automation Technology standards were validated through a complete review by an industry panel.

PROJECT COORDINATOR

Alex Kyser, Education Programs Professional
Skilled and Technical Sciences
Office of Career Readiness, Adult Learning & Education Options
Nevada Department of Education

AUTOMATION TECHNOLOGY STANDARDS

2018

CONTENT STANDARD 4.0 : CHARACTERIZE AUTOMATION CONTROL DEVICES

PERFORMANCE STANDARD 4.1 : INVESTIGATE MOTORS IN AUTOMATED SYSTEMS

- 4.1.1 Identify the function of an electric motor
- 4.1.2 Identify the various types of motors and their designated uses (e.g., 1 phase AC, 3 phase AC, DC, Servo)
- 4.1.3 Describe various motor applications in automation systems
- 4.1.4 Construct and test a simple motor application

PERFORMANCE STANDARD 4.2 : INVESTIGATE FLUID POWER SYSTEMS

- 4.2.1 Identify and apply safety protocols for fluid power systems
- 4.2.2 Identify components of fluid power systems
- 4.2.3 Describe the operation and use of fluid power in automation systems
- 4.2.4 Identify different control components used in pneumatic systems (e.g., OCVs, Flow control, Solenoids)
- 4.2.5 Construct and test a simple fluid power system

PERFORMANCE STANDARD 4.3 : INVESTIGATE SENSORS AND ACTUATORS

- 4.3.1 Differentiate between sensors and actuators
- 4.3.2 Describe the functions of sensors and actuators used in automation systems
- 4.3.3 Construct and test a circuit utilizing sensors and actuators
- 4.3.4 Define analog and binary sensors
- 4.3.5 Differentiate between different Binary sensors and what they detect (e.g., inductive, capacitive, photoelectric)

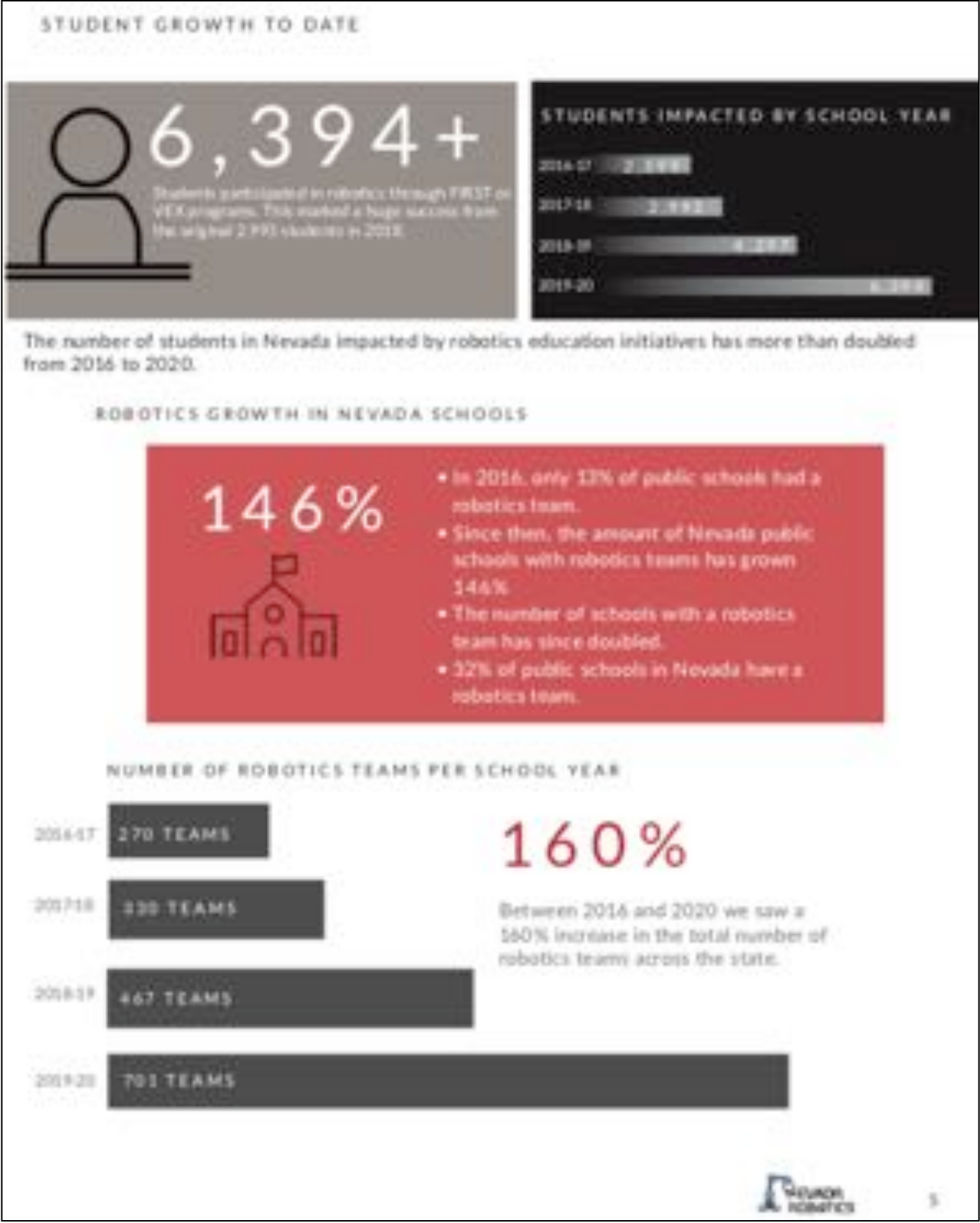
PERFORMANCE STANDARD 4.4 : INVESTIGATE SWITCHES AND RELAYS

- 4.4.1 Differentiate between switches and relays
- 4.4.2 Explain the characteristics and operations of switches and relays
- 4.4.3 Explain the role of electromagnetic relays
- 4.4.4 Construct and test a simple circuit utilizing switches and relays

PERFORMANCE STANDARD 4.5 : EXPLORE PROGRAMMABLE LOGIC CONTROLLERS

- 4.5.1 Investigate the basic components of a programmable logic controller (PLC)
- 4.5.2 Identify the major advantages in the use of PLCs in automation
- 4.5.3 Identify the various programming devices used to program a PLC
- 4.5.4 Explain the various modes of operations of a PLC

K-12 PARTNERSHIPS




K-12 PARTNERSHIPS

ROBOTICS IN NEVADA

2019

HOW TO INVEST IN ROBOTICS

FOR BUSINESSES



OVERVIEW - OUR MISSION

The mission of Nevada Robotics is to provide opportunities for access to robotics education across Nevada, creating a learning environment that inspires our students to apply and sharpen their STEH and creativity skills while strengthening the STEM workforce pipeline. Please join us in supporting this mission by partnering with us.

WHERE DO YOU COME IN?

As an employer, you have the unique power and opportunity to invest and/or donate in meaningful causes within your community. We are currently partnered with large and small businesses, including, Tesla, Microsoft, Barrick, EDIWIN, CTE, and more. While our partners right now are mostly large tech companies, we would love support from local businesses. We are actively looking for new partners to help us expand robotics in the state. See below for the different ways you can invest in robotics today.

INVEST IN STUDENTS

Currently FIRST Robotics and VEX Robotics are organizations leading robotics internationally. Both offer various competition programs for all grade levels.

- Students participating in these programs learn to design, build, program and operate their very own robots in a team-based environment, while also developing professional skills that can be carried into the workforce.



INVESTMENT MENU

Below you will find a student and team specific investment tier system. There are many ways to support a team, if you would like to make a custom investment please reach out to discuss possible options. Inquiries about investments can be made to nevadarobotics@nvidia.com.

<div>\$2000 +</div> <div><ul style="list-style-type: none">Support the implementation of an elementary team.> Equipment> Registration Fees</div> <div>TIER 1</div>	<div>\$7000 +</div> <div><ul style="list-style-type: none">Supports a team's travel to competition.Supports the implementation of a middle school team.</div> <div>TIER 2</div>	<div>\$10000 +</div> <div><ul style="list-style-type: none">Supports multiple teams> Partial to full equipment or competition registration feesSupports the implementation of a high school team.Supports a local competition.</div> <div>TIER 3</div>	<div>Custom Amount</div> <div><ul style="list-style-type: none">Any amount can be applied to specific teams and events.There is no maximum or minimum.</div> <div>CUSTOM</div>
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NEVADAROBOTICS.ORG

THE PROCESS



1

CHOOSE TIER

Investment partners can choose an investment tier or create a custom tier that best fits their investment goals.



2

PARTNER WITH US

Nevada Robotics and our new investment partner will work together to build a unique plan of action that aligns with prior goal.



3

IDENTIFY A SCHOOL

After taking investment goal and tier into consideration, we will identify the best school to invest in. Feeder schools, current programs, and STEH presence in school will be reviewed.



4

NON PROFIT MATCH

After a school is chosen, Nevada Robotics will help decide what robotics program is the best fit based on set criteria.



5

MEET WITH SCHOOL

Together, investment partners and Nevada Robotics will meet with school leaders to present our plan of action and ensure all parties are aware of their role.



6

DISTRIBUTE FUNDS

Investment partners will write a check made out to Nevada Robotics. Funding will then be sent directly to a robotics non-profit or select school to bring the investment goal to life.



7

CHEER ON YOUR TEAM

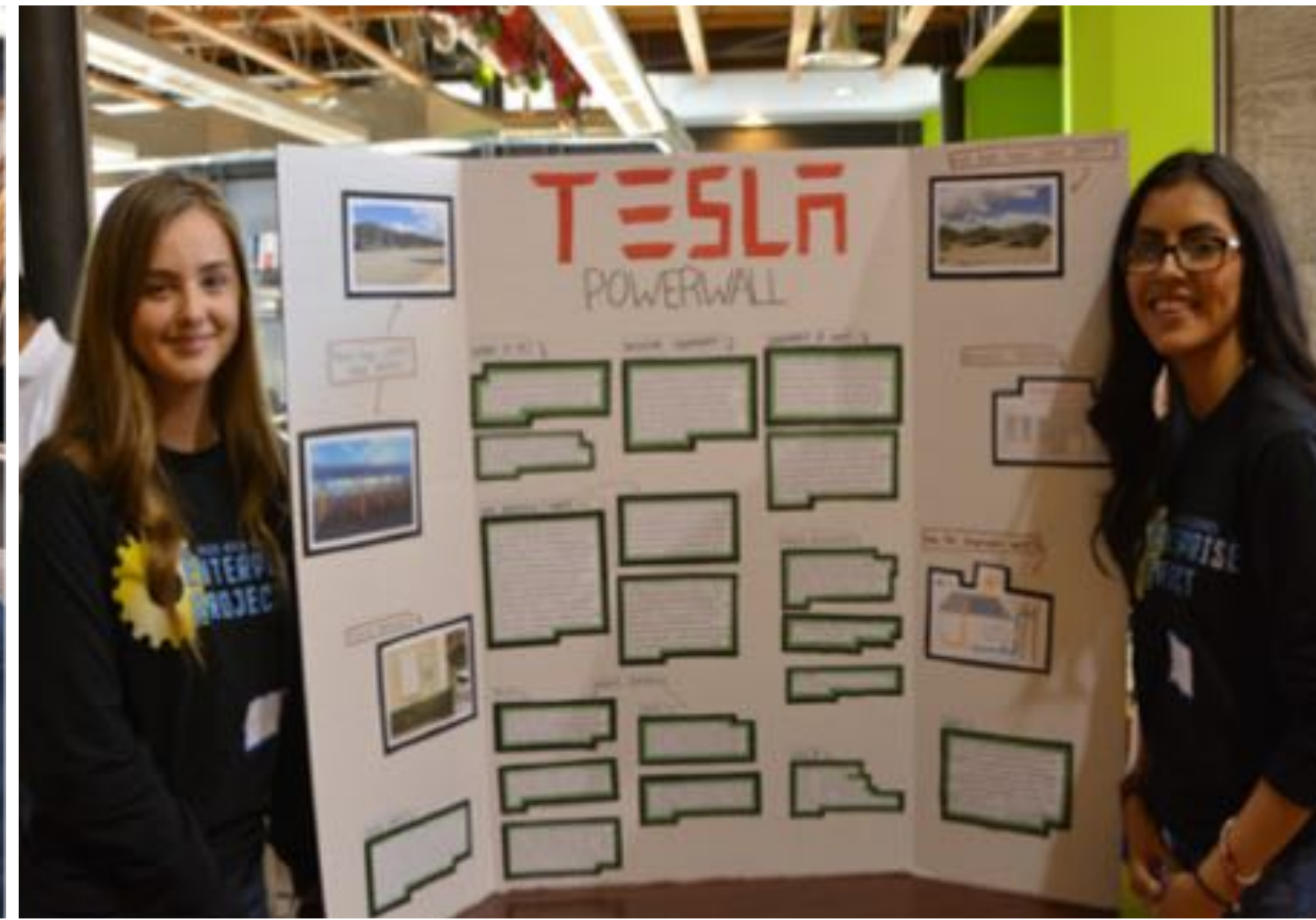
We highly recommend visiting your team or event that you have invested in. All robotics competitions from both organizations can be found online. Cheer on the team of students you invested in.

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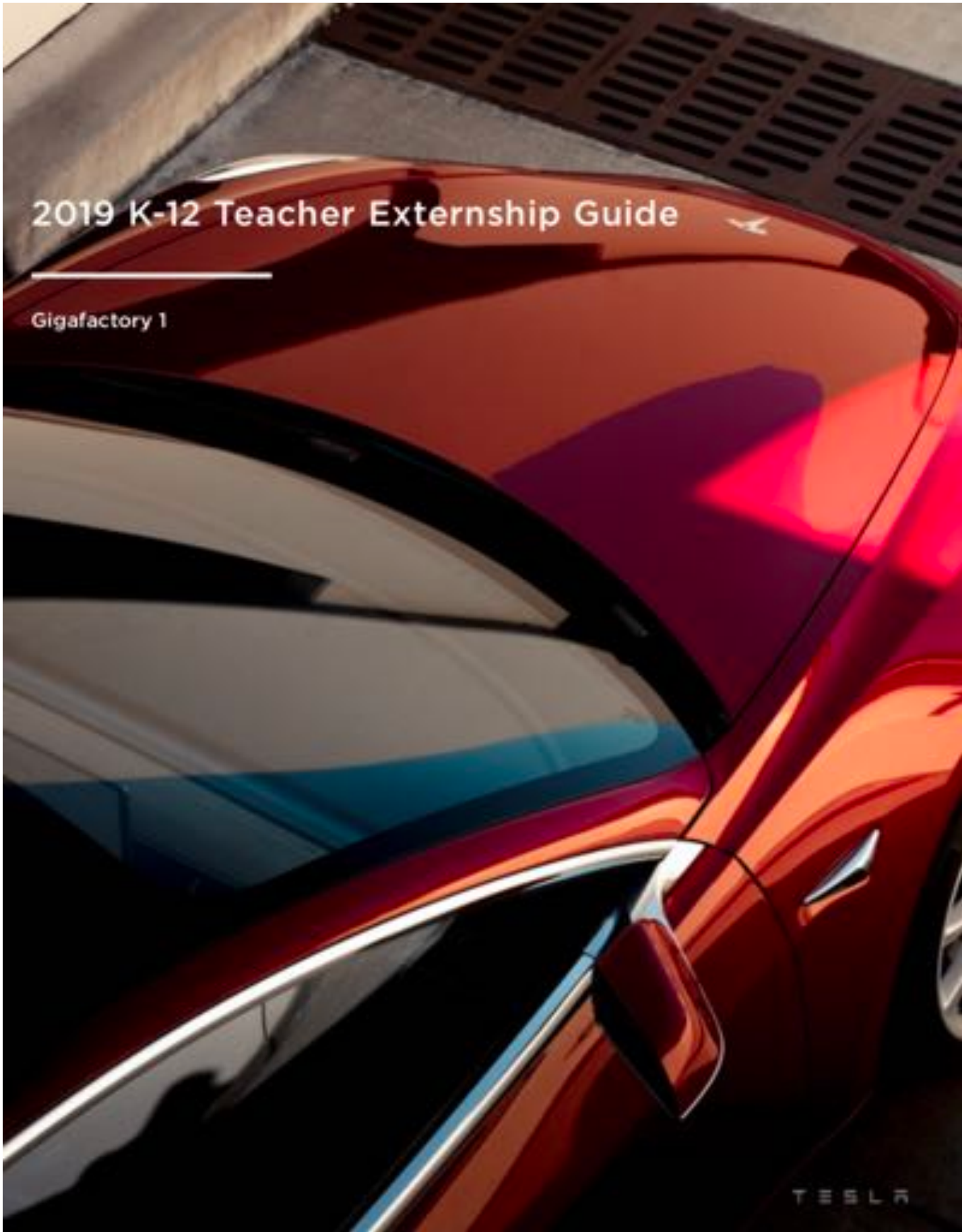
TESLA

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K-12 PARTNERSHIPS



ANNUAL TRADITIONS



Preparing for Arrival

Leadership Chats

During your externship here, we will provide you with several opportunities to speak with our leaders at Tesla. These are great opportunities to learn about the paths those leaders took to get to Tesla, to ask what they look for in future employees and any other questions that might be specific to their areas of expertise.



Prior Externship Participants



Tesla K-12 Teacher Externship 2019 Agenda

Day 1

Time	Subject	Lead	Location
8:00 - 9:15 AM	Welcome and Keynote	Mike Randolph	UNR - Edmund J Cain Hall
9:15 - 10:00 AM	Travel to Gigafactory		
10:00 - 10:45 AM	Goals and Expectations	Mike Randolph	Cottonwood
11:00 - 12:30 PM	Tour	Adam Kirby	Tesla Lobby
12:30 - 1:30 PM	Lunch	Mike Randolph	Cafe or Food Trucks
1:30 - 3:00 PM	Shadowing (Drive/Energy)	Andrew Daniels	TBA
3:00 - 3:15 PM	Break		
3:15 - 5:00 PM	Shadowing (Drive/Energy)	Andrew Daniels	TBA

Day 2

Time	Subject	Lead	Location
8:00 - 10:00 AM	Automation 1	Mike Randolph	Hemlock
10:00 - 10:30 AM	Break		
10:30 - 12:00 PM	Lego On-Boarding Activity	Ashleigh Moya	Showroom
12:00 - 1:00 PM	Lunch	Mike Randolph	Cafe or Food Trucks
1:00 - 3:00 PM	GF1 Leadership Meeting	Chris Reilly	33J - Alder
3:00 - 5:00 PM	Shadowing	Andrew Daniels	TBA

Day 3

Time	Subject	Lead	Location
8:00 - 12:00 PM	Curriculum Development	Mike Randolph	Showroom
12:00 - 1:00 PM	Lunch	Mike Randolph	Cafe or Food Trucks
1:00 - 2:00 PM	GF1 Leadership Meeting	Chris Reilly	Cottonwood
2:00 - 4:00 PM	Shadowing	Andrew Daniels	TBA
4:00 - 5:00 PM	Recap/Debrief	Mike Randolph	Sugar Pine

ANNUAL TRADITIONS



Introduce a Girl to Engineering Day



TESLA