



# Rapid React 2022

## 6995 Team NOMAD

# Business Plan



## **Mission Statement**

NOMAD's goal is to provide opportunities for all students to develop lifelong skills through hands-on STEM and business experiences in an exciting and fun environment. NOMAD endeavors to give students who wouldn't normally have the opportunity to be part of a robotics team (such as homeschool or charter-school students) the ability to be involved in the FIRST community. In all of our pursuits, NOMAD strives to build productive relationships, inspire the next generation, and leave a positive impact.

## **Team History & Growth**

Our head mentor, Kevin Brady, and his family lived in Australia for several years where they were involved in the formation of the FIRST Robotics Competition team 5584, ICRobotics. When they returned to the States, their son wanted to continue participating in FRC but was not eligible to join any of the existing teams in San Diego County. In September of 2017, FRC Team 6995 NOMAD was established, allowing all students in San Diego County the opportunity to participate in FRC.

Beginning as a 2018 rookie team, NOMAD consisted of 7 students with very little FRC experience. By the end of the 2019 build season NOMAD had grown to 22 students, won the 2019 San Diego Regional, and traveled to the Houston World Championships. In 2020, COVID-19 restrictions forced FIRST to cancel the San Diego and Aerospace Valley regionals NOMAD was planning on attending, even though the team robot was fully completed. One year later, Team NOMAD participated in the "Infinite Recharge at Home" and Innovation Award challenges, receiving the Industrial Design Award presented by Ford for our 2021 robot. In August 2021 NOMAD established the FIRST Lego League team 52311 Techno Tigers, who took 2nd place in the 2022 "Cargo Connect" challenge. Later that year, Team NOMAD competed in Beach Blitz and Battle at the Border, finishing in 2nd and 3rd place.

Because NOMAD is not affiliated with a school, we actively seek and recruit new team members through outreach events and presentations at various homeschool communities (such as CFS Poway, Masters Community, and Classical Conversations). In addition, the establishment of Techno Tigers allowed the team to expose elementary-school students to the world of FIRST. When new members join NOMAD, experienced team members and Team Leads train incoming students for future leadership positions. Since we intentionally keep our team roster small, every student contributes and is valued as a member. For example, at the end of the 2021 season several key students (Team Captain, Design Lead, Mechanical Lead, and an experienced programmer) graduated from Team NOMAD. However, because these graduates had trained other students and passed on their knowledge, NOMAD was well prepared to continue full-force with the new set of Team Leads.

## **Organizational Structure**

NOMAD is divided into five sub-teams (Business, Drive, Design, Mechanical, and Software). Many students contribute to more than one sub-team. To see a detailed description of each sub-team, see the chart in the Appendix. Each sub-team has a Lead, in addition to an overall Team Captain.

Team NOMAD's organizational structure greatly encourages the mentorship of new students by older team members. Because all of our Team Leads are seniors, NOMAD is actively training our sophomores and freshmen to learn new skills, take on more responsibilities, and become future leaders. This method ensures that NOMAD has eligible Team Leads each season, which will help to sustain the team for years to come.

Because Team NOMAD is a community based team, we intentionally keep our roster small to ensure that every student gains hands-on experience. In addition, NOMAD fosters a diverse and inclusive environment which allows every new idea and opinion to be heard and discussed. NOMAD team members are encouraged to become leaders and to train other members in new skills. Each season NOMAD has a total of 20-22 homeschool, charter school, and private school students. To spread team awareness and gain potential recruits, NOMAD travels to different homeschool communities (such as Classical Conversations, CFS Poway and Masters Community) to present the robot and to introduce students to the world of FIRST. In addition, NOMAD hosts an annual open house event for highschool students interested in robotics. By participating in frequent outreach events, NOMAD gains new team members annually. For example, between the 2020 and 2021 competition seasons the team gained 13 new recruits, several of whom have taken up leadership positions this year.

### **Risk Analysis**

Team NOMAD was founded on risk and opportunity. As a small community-based team, NOMAD has extremely limited resources. Back in 2018, however, several mentors and seven inexperienced students decided to take the risk to start up Team NOMAD. As a community team, NOMAD doesn't have an affiliate school resulting in team workshops being hosted out of our Lead Mentor's garage. When NOMAD advanced to the 2019 World Championships, the team did not have the funding to attend. But NOMAD was determined to make it to Houston (we ended up getting a grant, making it possible!). Along the way there have been many teams in the FIRST community who have helped us (SUPERnerds, Daedalus, Spyder, and Millenium Falcons, to name a few), but NOMAD has still faced challenges due to the risk of being a small community team.

Team NOMAD was started in order to provide students with the opportunity to experience the world of FIRST. NOMAD was the first San Diego team to not be affiliated with a school or organization, allowing students who wouldn't normally have the option to join a robotics team to be affiliated with FIRST and to participate in competition. Team NOMAD upholds and encourages FIRST's ideals of Gracious Professionalism and Coopertition both inside and outside the workshop. When new students join Team NOMAD, they are immediately taught and mentored by older students, equipping new members with the knowledge and skills to assume a leadership position in the future. This process, as well as FIRST's ideals, equip students with both the experience and character needed to be a valuable asset in the workplace and community after highschool.

One of NOMAD's biggest strengths is the community that we have as a team. During the competition season, the Team Leads and Mentors have weekly meetings to ensure each subteam is working according to a proper schedule and in unison with their fellow teammates. Team leads train up younger students and encourage them to become leaders in the future. In addition, team members come from diverse backgrounds and schooling, allowing the team to discover new perspectives and ideas during the competition season. For more information, see NOMAD's SWOT analysis in the Appendix. As a result, NOMAD fosters a fun, inclusive and hard working environment, preparing students for the future.

## **Marketing**

Team NOMAD keeps consistent team branding throughout the season, making an effort to keep all documents and merchandise (judges' gifts, social media, shirts, sponsor resources, etc.) consistent with team colors, fonts, and design. All merchandise includes the NOMAD logo and the logos of the season's sponsors. In addition, Team NOMAD runs active social media accounts on both Facebook and Instagram, where the Business sub-team posts 1-2 times per week, informing followers and sponsors about NOMAD's progress in the workshops. To implement team branding, our social media posts include the NOMAD logo bordered by a green and white outline. As a result, followers can immediately identify the NOMAD's posts from the dozens of others appearing in their feeds at any given time. Since this idea was implemented, NOMAD'S number of followers has dramatically and steadily increased.

NOMAD runs several different fundraisers throughout the year. In November of 2021, NOMAD conducted a Christmas wreath fundraiser through Sherwood Forest Farms. Each wreath sold included a NOMAD pin which allowed different members of our community to learn about our team and display NOMAD's team name and logo on their household decorations. In addition, NOMAD has hosted fundraisers at restaurants such as Chipotle, allowing the team to spend time together while raising awareness for FIRST and spreading the team name throughout the community. As for future fundraisers, NOMAD is planning a Rubio's fundraiser during the Las Vegas 2022 Regional (with other FRC teams welcome!) and a Fundraiser Spring Formal the following week.

## **Financials**

Team NOMAD is funded through sponsorships and grants. Because NOMAD is not affiliated with a school, the team does not receive school funding or support. As a result, team members must personally reach out to companies and businesses in order to gain sponsors and arrange fundraisers. Because our sponsors are integral to the team's success, NOMAD values sponsor connections and makes it a point to send out updates and "Thank You" plaques throughout the year. In addition, NOMAD publishes weekly blog posts throughout competition season to keep supporters informed and integrated in the NOMAD community. As detailed in the Appendix, sponsors will receive certain benefits based on the amount of money donated (although all sponsors will have their name advertised on the team slideshow while at competition events).

NOMAD budgets \$10,000 for Regional competitions, including travel expenses, and about \$500 for offseason competitions. Additionally, \$5,000 is budgeted for robot parts, and \$1,000 for team expenses (shirts, machining, etc.). For more information, please see the chart in the Appendix. Please note the chart is for the 2021 season. Thus competition expenses were different from what they would have been for a normal in-person season.

## Appendix

### Team Organizational Structure:

<b>Drive</b>	<ul style="list-style-type: none"> <li>• Selected through tryouts and is responsible for driving the robot at all competition and demonstration events</li> <li>• Within the Drive Team there is a Driver, Operator, Technician, Human Player, and Drive Coach, along with backups</li> </ul>
<b>Business</b>	<ul style="list-style-type: none"> <li>• Raising funds</li> <li>• Promoting NOMAD to the community, outreaches</li> <li>• Documentation for competitions</li> <li>• Pit design and judges' gifts</li> </ul>
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>• Responsible for building the robot</li> <li>• Uses the specifications given by the Design sub-team</li> </ul>
<b>Software</b>	<ul style="list-style-type: none"> <li>• responsible for developing and testing the code that operates the robot, both in Tele-Op and the Autonomous period</li> <li>• Uses Java</li> </ul>
<b>Design</b>	<ul style="list-style-type: none"> <li>• Creates representation of robot sub-assemblies through CAD (Computer Aided Design)</li> <li>• Responsible for design documentation necessary for robot construction</li> <li>• Works with Mechanical sub-team</li> </ul>

### Sponsor Benefits:

	<u>Platinum</u>	<u>Gold</u>	<u>Silver</u>	<u>Bronze</u>
<b>Amount:</b>	\$5,000 and above	\$2,000 - \$4,999	\$500 - \$1,999	Under \$500
<b>Team Shirt:</b>	Large logo of business	Medium logo of business	Small logo of business	--
<b>Robot:</b>	Large logo of business	Medium logo of business	Small logo of business	--
<b>Banner (displayed at events):</b>	Large logo of business	Medium logo of business	Small logo of business	--
<b>Website (on our sponsorship page):</b>	Large logo with link to sponsor's website	Medium logo with link to sponsor's website	Small logo with link to sponsor's website	Name of business/individual

## SWOT Analysis:

Strengths	Weaknesses
<ul style="list-style-type: none"><li>• Team members are hardworking and willing to learn and improve.</li><li>• Diverse team personalities and leadership skills provide a streamlined organization during competition season.</li><li>• Team members are experienced in FIRST ideals and actively apply them while in the workshop.</li><li>• Older students pass on their knowledge to new team members, allowing them to be equipped for the competition season.</li><li>• NOMAD provides a fun and encouraging workshop environment.</li><li>• The small team size fosters community within the group; NOMAD is a tight-knit team that creates strong, lasting friendships among team members.</li></ul>	<ul style="list-style-type: none"><li>• NOMAD has limited workshop space and workshop hours. This greatly impacts our building capability during the competition season. Unlike neighboring teams, we only have 2-3 workshops per week.</li><li>• NOMAD is not affiliated with a school, which limits our recruiting pool.</li><li>• NOMAD does not have access to a competition practice field. This severely limits our ability to practice before competitions.</li></ul>
Opportunity	Threats
<ul style="list-style-type: none"><li>• We are teaching the next generation of NOMADs both robotics and FIRST ideals, as well as impressing these ideals on the FLL team Techno Tigers.</li><li>• Team NOMAD has friendly connections with neighboring teams and our community.</li><li>• NOMAD offers an opportunity for students looking for a private robotics team.</li></ul>	<ul style="list-style-type: none"><li>• Lack of proper funding during the season can inhibit our ability to build the best robot possible.</li><li>• Our workshop space is limited, which also limits our team size and workshop frequency.</li><li>• We are not affiliated with a school, so unless team members actively recruit and outreach we run the risk of our team size dwindling.</li></ul>

**2021 Income/Expenses:**

