



**SAE Aero Design West 2025: TEAM PHOENIX**

**ABOUT:** Team Phoenix is the official Aero-Designing and Aero-Modelling team of NIT Jamshedpur. We are a dedicated group of aeronautics enthusiasts committed to pushing the boundaries of RC planes and Drone technology in India. Our mission is to develop real-time solutions to pressing challenges in this field, and we take immense pride in representing our country and institute on the global stage.

This year, we are again participating in the prestigious SAE Aero Design East competition. Registration for the 2025 SAE Aero Design season will be held on Tuesday, October 1, 2024, on sae.org at 10:00 AM ET (7:30 PM IST) on its official website. The registration cost is $1550 (Rs 1,29,611). The competition will take place from April 4-6, 2025, in Van Nuys, California, USA.

**ACHIEVEMENTS:** For over a decade, our team’s hard work and dedication have consistently delivered strong results, and we’re proud of the reputation we’ve built. We believe in each other and in what we can achieve together. With the same passion and commitment, we’re ready to give it our all again, aiming to make our institute and country proud.

|  |  |
| --- | --- |
| **Year** | **Achievement/Rank** |
| SAE 2012 | 2nd Position among all the Indian teams |
| SAE 2013 | 18th Globally (Regular class) & 1st among all Indian Teams. |
| SAE 2014 | 7th Globally (Micro class) & 1st among all Indian Teams. |
| SAE 2015 | 13th Globally (Micro class) |
| SAE 2016 | 11th Globally (Regular class) & 1st among all Asian teams. |
| SAE 2017 | 15th Globally (Regular class) & 3rd among Asian teams. |
| SAE 2018 | 7th Globally (Regular class) & 3rd in Design Report submission. |
| SAE 2019 | 9th Globally (Regular class) & 1st in Design Report submission. |
| SAE 2020 | 7th Nationally, 1st in best innovation (Regular class) & 7th in Design Report.  11th Globally (Regular class) & 7th in Design Report Submission |
| SAE 2021 | 9th Globally & 2nd in Application report Nationally. |
| SAE 2022 | 4th in Design Report and 8th position overall |
| SAE 2023 | 3rd in CFD analysis (Design Report) |

**BUDGET :**

1. **REGISTRATION:** ₹**1,30,000**
2. **FABRICATION: ₹2,70,000**

|  |  |  |  |
| --- | --- | --- | --- |
| **GENERIC NAME** | **MAKE** | **QUANTITY** | **COST(₹)** |
| Balsa wood | 3x100x1000 mm sheets, 8mm strips | 50 | 40,000 |
| Carbon Fiber rods | 3K roll-wrapped carbon fiber tube | 15 | 9,000 |
| Aluminum tubes, control horns, pushrods | 9mm/3.5mm/300mm tubes, nylon control horn, D1x700mm pull/push rod | 20/20/20 | 15,000 |
| Plywood and aeroply | 4mm aeroply 36’’x36’’ | 4 | 6,000 |
| Motors, ESCs, Flight controller | Cobra motors ESC and Motor, Pixhawk Cube flight controller | 1 | 60,000 |
| Servos, Power limiter | NEU racing power limiter, metal gear servos | 1/15 | 20,000 |
| Transmitter and telemetry | Radiolink AT10/3DR 100mW telemetry | 1 | 20,000 |
| Monokote | Aeromodellingtutor Monokote | 5 | 10,000 |
| Glue (CA, epoxy, flexi) | 3M scotch weld epoxy, Instacure+ CA, pidilite instant adhesive flexi | 1 | 5,000 |
| Propellers, wires | TAROT carbon fiber propellers | 10 | 8,000 |
| Batteries | CNHL 6s lipo battery | 2 | 15,000 |
| Landing Gears, springs, 3d printer filament | CR ABS filament 1.75mm, alloy landing gear | 10/4 | 20,000 |
| Nuts, Screws, Allen keys, etc. | Taparia KI10V allen keys | 5 | 2,000 |
| Knives, tapes | Isomars pen knife, electric tape, double-sided tapes, fiberglass tape | 3/5/10/4 | 1,500 |
| Simulation cord | REES52 RC flight simulator cable | 1 | 1,600 |
| Soldering rod and wire | Aldeco solder kit, 60/40 solder wire | 1/10 | 1,000 |
| Glue sticks | Hot melt glue stick, milky white | 30 | 1000 |
| 3D Printer | Creality Ender 3 S1 Pro | 1 | 40,000 |
| **TOTAL (FABRICATION)** | | | **₹2,75,100** |

1. **TRAVELLING:**

|  |  |
| --- | --- |
| **COMPONENT** | **ESTIMATED COST(₹)** |
| TICKET (3 STUDENTS) | 2,40,000 |
| TRAVELLING, CAB, LODGING | 80,000 |
| **TOTAL** | **₹3,20,000** |

**CURRENT BALANCE OF THE TEAM: ₹1,18,000**

(which will be used in the fabrication of the plane)

Our Team Alumni will also support traveling, cab and lodging costs**.**

**EXPECTED SUPPORT FROM COLLEGE: ₹3,00,000 (Three Lakhs only)**

1. REGISTRATION FEE: **₹1,30,000**.
2. FABRICATION: **₹ 1,70,000.**

**Date of Registration:** **1ST OCTOBER 2024**

**Link of the Registration:** [2025 SAE Aero Design Season](https://www.saeaerodesign.com/cdsweb/app/NewsItem.aspx?NewsItemID=c11e85a9-fd11-4645-af5a-a02429f1c4e2)

**SELECTION CRITERIA**

The selection for the team participating in the event started in May 2023 (induction process of the team) before which orientation and workshops were held. Students were well aware of the fact that Team Phoenix participates in SAE International and SAE India in aero design competitions. The criteria for selecting students were:

* **Personal Interview rounds**: Interview rounds of the interested students of the 2022-2026 batch and 2023-2027 batch of B.Tech(Hons) were conducted under the supervision of the faculty advisor
* **Team Domains:** The selected members were divided into several domains such as technical, avionics, CAD modeling, design analysis and sponsorship as per the interest and performance of the students in the respective domains.
* **Tests:** The team members were also shortlisted based on their scores in the technical tests held at regular intervals.
* **Activeness of members:** Participation of members in regular sessions on design, fabrication, avionics and other team activities

After considering all these factors, technical skills, activeness of the members, everyone's consent and approval by our faculty advisor, the following students are the current members of the team:

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Reg. No.** | **Name of the Student** |
| 1. | 2022UGME069 | Deepak Kumar |
| 2. | 2022UGME005 | Tanisha Srivastava |
| 3. | 2022UGPI068 | Jagdish Nigam |
| 4. | 2022UGPI019 | Saptak Roy |
| 5. | 2022UGMM027 | Krish Rathore |
| 6. | 2022UGMM060 | Shruti Priya |
| 7. | 2022UGEC015 | D Chandu Suvas Reddy |
| 8. | 2022UGCE066 | Aditya Kumar |
| 9. | 2022UGMM088 | Harsh Kumar |
| 10. | 2022UGME101 | Yuvraj Singh |
| 11. | 2023UGMM069 | Adyant Mishra |
| 12. | 2023UGEC007 | Aniket Tripathi |
| 13. | 2023UGME083 | Anuj Kumar |
| 14. | 2023UGEC093 | Ayush Kumar |
| 15. | 2023UGPI017 | Ekangsh Sah |
| 16. | 2023UGME005 | Aman Kumar |
| 17. | 2023UGME109 | Aman Mishra |
| 18. | 2023UGME080 | Jai Krishna Pramanik |
| 19. | 2023UGME038 | Navya Mishra |
| 20. | 2023UGME103 | Ranjeet Kumar Gupta |
| 21. | 2023UGEC012 | Sai Pranay Pilli |
| 22. | 2023UGEC033 | Sourav Kumar |
| 23. | 2023UGME014 | Rajanya Sarkar |
| 24. | 2023UGME035 | Tanisha Narayan Singh |
| 25. | 2023UGME043 | Amit Singh |

**Out of all these team members, 3 members will travel to Van Nuys, California, United States of America for SAE Aero Design West, 2025.**

**CONSENT OF STUDENT**

To,

The Director

National Institute of Technology, Jamshedpur

Jharkhand - 831014

Date: 16/10/2024

Subject: No Objection Certificate

This is to certify that I Krish Rathore, a student of Metallurgical and Materials Engineering Branch in the Bachelors of Technology program at National Institute of Technology, Jamshedpur, with institute registration number 2022UGMM027, scheduled to graduate in 2026, am set to participate in the SAE Aero Design West competition Van Nuys, California, United States of America, from April 4-6, 2025.

I confirm that I will be solely responsible for my security and well-being during my stay outside India. I also assure you that I will return to India as scheduled to fulfill my academic responsibilities and complete my course.

Thank you for your support.

Sincerely,

Krish Rathore

Signature:

Date: 16/10/2024

**CONSENT OF STUDENT**

To,

The Director

National Institute of Technology, Jamshedpur

Jharkhand - 831014

Date: 16/10/2024

Subject: No Objection Certificate

This is to certify that I Saptak Roy, a student of Production and Industrial Engineering Branch in the Bachelors of Technology program at National Institute of Technology, Jamshedpur, with institute registration number 2022UGPI019, scheduled to graduate in 2026, am set to participate in the SAE Aero Design West competition Van Nuys, California, United States of America, from April 4-6, 2025.

I confirm that I will be solely responsible for my security and well-being during my stay outside India. I also assure you that I will return to India as scheduled to fulfill my academic responsibilities and complete my course.

Thank you for your support.

Sincerely,

Saptak Roy

Signature:

Date: 16/10/2024

**CONSENT OF STUDENT**

To,

The Director

National Institute of Technology, Jamshedpur

Jharkhand - 831014

Date: 16/10/2024

Subject: No Objection Certificate

This is to certify that I Shruti Priya, a student of Metallurgical and Materials Engineering Branch in the Bachelors of Technology program at National Institute of Technology, Jamshedpur, with institute registration number 2022UGMM60, scheduled to graduate in 2026, am set to participate in the SAE Aero Design West competition Van Nuys, California, United States of America, from April 4-6, 2025.

I confirm that I will be solely responsible for my security and well-being during my stay outside India. I also assure you that I will return to India as scheduled to fulfill my academic responsibilities and complete my course.

Thank you for your support.

Sincerely,

Shruti Priya

Signature:

Date: 16/10/2024

**CONSENT OF PARENTS**

To,

The Director

National Institute of Technology, Jamshedpur

Jharkhand - 831014

Date: 16/10/2024

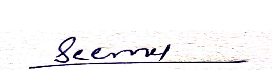
Subject: No Objection Certificate

This is to certify that I, Seema Rathore, have been employed as House Wife. My Son (Krish Rathore) , a student of Metallurgical and Materials Engineering Branch with institute registration number 2022UGMM027, is enrolled in the Bachelor of Technology program at your esteemed institute and is scheduled to graduate in 2026. He is set to participate in the SAE Aero Design West competition in Van Nuys, California, United States of America, from April 4-6, 2025.

I fully support my son's participation in this event and take full responsibility for them during this period. I hereby give my permission for their travel to the United States for this competition and confirm that I have no objection to their visa application.

I also assure you that they will return to India as per the schedule to complete his/her course and academic responsibilities.

Thanks & Regards,

Seema Rathore

Signature:

Date: 16/10/2024

Address:Reetha Phatak Road Near Sanjay Udyoyg, Vidisha (M.P)

Contact No.: 7389380055

**CONSENT OF THE TEAM MEMBERS:**

To,  
The Director,  
National Institute of Technology Jamshedpur,  
Jharkhand - 831014

Date: 16/10/2024

**Subject:** Consent of Team Members for Participation in SAE Aero Design West 2025.

Respected Sir,

I hope this letter finds you well. I, Tanisha Srivastava, a member of **Team Phoenix** and a student of **National Institute of Technology, Jamshedpur**, hereby express my formal consent and support for the participation of the selected team members in the **SAE Aero Design West 2025** competition.

The selection process for the team members representing **Team Phoenix** in this prestigious international competition was conducted with utmost transparency, fairness, and adherence to established guidelines. The criteria for selection, including technical expertise, collaborative skills, and dedication to the project, were meticulously followed, ensuring that the most capable and deserving members were chosen.

As a committed member of Team Phoenix, I fully endorse the selected participants and have complete faith in their ability to uphold the integrity and standards of our institution. I have no objections to their representation of **NIT Jamshedpur** and am confident that they will make valuable contributions to our team’s success on the global stage.

This competition presents a unique opportunity to showcase our innovative designs, technical proficiency, and teamwork at an international level, and I wholeheartedly support the efforts of the team in achieving this goal. I trust that the institution will continue to extend its full support to the team as we prepare for this challenging yet exciting endeavor.

Thank you for your attention and consideration.

Yours sincerely,  
Tanisha Srivastava  
2022UGME005  
Member, Team Phoenix  
National Institute of Technology Jamshedpur

**CONSENT OF THE TEAM MEMBERS:**

To,  
The Director,  
National Institute of Technology Jamshedpur,  
Jharkhand - 831014

Date: 16/10/2024

**Subject:** Consent of Team Members for Participation in SAE Aero Design West 2025.

Respected Sir,

I hope this letter finds you well. I, Deepak Kumar, a member of **Team Phoenix** and a student of **National Institute of Technology, Jamshedpur**, hereby express my formal consent and support for the participation of the selected team members in the **SAE Aero Design West 2025** competition.

The selection process for the team members representing **Team Phoenix** in this prestigious international competition was conducted with utmost transparency, fairness, and adherence to established guidelines. The criteria for selection, including technical expertise, collaborative skills, and dedication to the project, were meticulously followed, ensuring that the most capable and deserving members were chosen.

As a committed member of Team Phoenix, I fully endorse the selected participants and have complete faith in their ability to uphold the integrity and standards of our institution. I have no objections to their representation of **NIT Jamshedpur** and am confident that they will make valuable contributions to our team’s success on the global stage.

This competition presents a unique opportunity to showcase our innovative designs, technical proficiency, and teamwork at an international level, and I wholeheartedly support the efforts of the team in achieving this goal. I trust that the institution will continue to extend its full support to the team as we prepare for this challenging yet exciting endeavor.

Thank you for your attention and consideration.

Yours sincerely,  
Deepak Kumar  
2022UGME069  
Member, Team Phoenix  
National Institute of Technology Jamshedpur

**CONSENT OF THE TEAM MEMBERS:**

To,  
The Director,  
National Institute of Technology Jamshedpur,  
Jharkhand - 831014

Date: 16/10/2024

**Subject:** Consent of Team Members for Participation in SAE Aero Design West 2025.

Respected Sir,

I hope this letter finds you well. I, D Chandu Suvas Reddy, a member of **Team Phoenix** and a student of **National Institute of Technology, Jamshedpur**, hereby express my formal consent and support for the participation of the selected team members in the **SAE Aero Design West 2025** competition.

The selection process for the team members representing **Team Phoenix** in this prestigious international competition was conducted with utmost transparency, fairness, and adherence to established guidelines. The criteria for selection, including technical expertise, collaborative skills, and dedication to the project, were meticulously followed, ensuring that the most capable and deserving members were chosen.

As a committed member of Team Phoenix, I fully endorse the selected participants and have complete faith in their ability to uphold the integrity and standards of our institution. I have no objections to their representation of **NIT Jamshedpur** and am confident that they will make valuable contributions to our team’s success on the global stage.

This competition presents a unique opportunity to showcase our innovative designs, technical proficiency, and teamwork at an international level, and I wholeheartedly support the efforts of the team in achieving this goal. I trust that the institution will continue to extend its full support to the team as we prepare for this challenging yet exciting endeavor.

Thank you for your attention and consideration.

Yours sincerely,  
D Chandu Suvas Reddy  
2022UGEC015  
Member, Team Phoenix  
National Institute of Technology Jamshedpur

**CONSENT OF THE TEAM MEMBERS:**

To,  
The Director,  
National Institute of Technology Jamshedpur,  
Jharkhand - 831014

Date: 16/10/2024

**Subject:** Consent of Team Members for Participation in SAE Aero Design West 2025.

Respected Sir,

I hope this letter finds you well. I, Jagdish Nigam, a member of **Team Phoenix** and a student of **National Institute of Technology, Jamshedpur**, hereby express my formal consent and support for the participation of the selected team members in the **SAE Aero Design West 2025** competition.

The selection process for the team members representing **Team Phoenix** in this prestigious international competition was conducted with utmost transparency, fairness, and adherence to established guidelines. The criteria for selection, including technical expertise, collaborative skills, and dedication to the project, were meticulously followed, ensuring that the most capable and deserving members were chosen.

As a committed member of Team Phoenix, I fully endorse the selected participants and have complete faith in their ability to uphold the integrity and standards of our institution. I have no objections to their representation of **NIT Jamshedpur** and am confident that they will make valuable contributions to our team’s success on the global stage.

This competition presents a unique opportunity to showcase our innovative designs, technical proficiency, and teamwork at an international level, and I wholeheartedly support the efforts of the team in achieving this goal. I trust that the institution will continue to extend its full support to the team as we prepare for this challenging yet exciting endeavor.

Thank you for your attention and consideration.

Yours sincerely,  
Jagdish Nigam  
2022UGPI068  
Member, Team Phoenix  
National Institute of Technology Jamshedpur

**CONSENT OF THE TEAM MEMBERS:**

To,  
The Director,  
National Institute of Technology Jamshedpur,  
Jharkhand - 831014

Date: 16/10/2024

**Subject:** Consent of Team Members for Participation in SAE Aero Design West 2025.

Respected Sir,

I hope this letter finds you well. I, Aditya Kumar, a member of **Team Phoenix** and a student of **National Institute of Technology, Jamshedpur**, hereby express my formal consent and support for the participation of the selected team members in the **SAE Aero Design West 2025** competition.

The selection process for the team members representing **Team Phoenix** in this prestigious international competition was conducted with utmost transparency, fairness, and adherence to established guidelines. The criteria for selection, including technical expertise, collaborative skills, and dedication to the project, were meticulously followed, ensuring that the most capable and deserving members were chosen.

As a committed member of Team Phoenix, I fully endorse the selected participants and have complete faith in their ability to uphold the integrity and standards of our institution. I have no objections to their representation of **NIT Jamshedpur** and am confident that they will make valuable contributions to our team’s success on the global stage.

This competition presents a unique opportunity to showcase our innovative designs, technical proficiency, and teamwork at an international level, and I wholeheartedly support the efforts of the team in achieving this goal. I trust that the institution will continue to extend its full support to the team as we prepare for this challenging yet exciting endeavor.

Thank you for your attention and consideration.

Yours sincerely,  
Aditya Kumar  
2022UGCE066  
Member, Team Phoenix  
National Institute of Technology Jamshedpur

**CONSENT OF THE TEAM MEMBERS:**

To,  
The Director,  
National Institute of Technology Jamshedpur,  
Jharkhand - 831014

Date: 16/10/2024

**Subject:** Consent of Team Members for Participation in SAE Aero Design West 2025.

Respected Sir,

I hope this letter finds you well. I, Harsh Kumar, a member of **Team Phoenix** and a student of **National Institute of Technology, Jamshedpur**, hereby express my formal consent and support for the participation of the selected team members in the **SAE Aero Design West 2025** competition.

The selection process for the team members representing **Team Phoenix** in this prestigious international competition was conducted with utmost transparency, fairness, and adherence to established guidelines. The criteria for selection, including technical expertise, collaborative skills, and dedication to the project, were meticulously followed, ensuring that the most capable and deserving members were chosen.

As a committed member of Team Phoenix, I fully endorse the selected participants and have complete faith in their ability to uphold the integrity and standards of our institution. I have no objections to their representation of **NIT Jamshedpur** and am confident that they will make valuable contributions to our team’s success on the global stage.

This competition presents a unique opportunity to showcase our innovative designs, technical proficiency, and teamwork at an international level, and I wholeheartedly support the efforts of the team in achieving this goal. I trust that the institution will continue to extend its full support to the team as we prepare for this challenging yet exciting endeavor.

Thank you for your attention and consideration.

Yours sincerely,  
Harsh Kumar  
2022UGMM088  
Member, Team Phoenix  
National Institute of Technology Jamshedpur

**CONSENT OF THE TEAM MEMBERS:**

To,  
The Director,  
National Institute of Technology Jamshedpur,  
Jharkhand - 831014

Date: 16/10/2024

**Subject:** Consent of Team Members for Participation in SAE Aero Design West 2025.

Respected Sir,

I hope this letter finds you well. I, Yuvraj Singh, a member of **Team Phoenix** and a student of **National Institute of Technology, Jamshedpur**, hereby express my formal consent and support for the participation of the selected team members in the **SAE Aero Design West 2025** competition.

The selection process for the team members representing **Team Phoenix** in this prestigious international competition was conducted with utmost transparency, fairness, and adherence to established guidelines. The criteria for selection, including technical expertise, collaborative skills, and dedication to the project, were meticulously followed, ensuring that the most capable and deserving members were chosen.

As a committed member of Team Phoenix, I fully endorse the selected participants and have complete faith in their ability to uphold the integrity and standards of our institution. I have no objections to their representation of **NIT Jamshedpur** and am confident that they will make valuable contributions to our team’s success on the global stage.

This competition presents a unique opportunity to showcase our innovative designs, technical proficiency, and teamwork at an international level, and I wholeheartedly support the efforts of the team in achieving this goal. I trust that the institution will continue to extend its full support to the team as we prepare for this challenging yet exciting endeavor.

Thank you for your attention and consideration.

Yours sincerely,  
Yuvraj Singh  
2022UGME101  
Member, Team Phoenix  
National Institute of Technology Jamshedpur