



# Innovation Project

Team Number Bot Builders  
 Judging Room ESTO1

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For each skill area, clearly mark the box that best describes the team's accomplishments. Teams should demonstrate everything at the level; if they are missing part, mark the level below. If the team does not demonstrate an area, put an 'X' in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve. Use the back for additional comments if needed.

\*Required for Award Consideration

	Beginning	Developing	Accomplished	Exemplary	
Research	<b>Problem Identification *</b>		Clear definition of the problem being studied		
	N D	unclear; few details	partially clear; details missing	mostly clear; detailed	clear; very detailed
	<b>Sources of Information</b>		Quality and variety of data/evidence and sources cited		
	N D	minimal quality; variety limited	quality OR variety need improvement; did not include professional(s)	sufficient quality and variety; included professional(s)	extensive quality and variety; included multiple professionals
	<b>Problem Analysis</b>		Depth to which the problem was studied and analyzed by the team, including extent of analysis of existing solutions		
N D	minimal study; no analysis	minimal study; some analysis	sufficient study and analysis	extensive study and analysis	
Innovative Solution	<b>Team Solution *</b>		Clear explanation of the proposed solution and description of how it solves the problem		
	N D	difficult to understand	some parts confusing	understandable	easy to understand by all
	<b>Innovation</b>		Degree to which the team's solution makes life better by improving existing options, developing a new application of existing ideas, or solving the problem in a completely new way		
	N D	existing solution/application	solution/application contains some original element(s)	original solution/application; potential added value	original solution/application; demonstrated added value
	<b>Solution Development</b>		Systematic process used to select, develop, evaluate, test, and improve the solution (Implementation could include cost, ease of manufacturing, etc.)		
N D	process AND explanation need improvement	process OR explanation need improvement	systematic process included evaluation	systematic process included evaluation; implementation considered	
Presentation	<b>Sharing *</b>		Degree to which the team shared their Project before the tournament with others who might benefit from the team's efforts		
	N D	shared with family / friends	shared outside family / friends (such as classmates)	shared with one audience who may benefit OR one professional	shared with multiple audiences who may benefit OR multiple professionals
	<b>Creativity</b>		Imagination used to develop and deliver the presentation		
	N D	minimally engaging OR unimaginative	engaging OR imaginative	engaging AND imaginative	very engaging AND exceptionally imaginative
	<b>Presentation Effectiveness</b>		Message delivery and organization of the presentation		
N D	unclear OR disorganized	partially clear; minimal organization	mostly clear; mostly organized	clear AND well organized	

Comments

Great Job....

Think about...

- Human-centred → extraordinary research and problem-solving skills → creative thinking → innovative solutions
- Team strength - multiple camps!
- even distribution of presents during A+A
- Exemplary models eg solution diagram
- Comprehensive evidence of process → (Tournament)



# Robot Design

Team Number 1  
Judging Room 2

For each Robot Design criteria, clearly mark the box that best describes the ability of the team to demonstrate or provide evidence (such as analysis or test data) that their robot and processes meet that level of achievement. If the team does NOT describe a particular criteria at all, then put an 'X' in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve. Use the back for additional comments if needed.

	Beginning	Developing	Accomplished	Exemplary	
Mechanical Design	<b>Durability</b> Robot designed to maintain structural integrity and have the ability to withstand rigors of competition				
	N D	quite fragile; breaks a lot	frequent or significant faults/repairs	rare faults/repairs	sound construction; no repairs
	<b>Mechanical Efficiency</b> Robot designed to be easy to repair, modify, and be handled by technicians				
	N D	excessive time to repair/modify	inefficient to repair/modify	appropriate time to repair/modify	streamlined time to repair/modify
Mechanization	<b>Mechanization</b> Robot mechanisms designed to move or act with appropriate speed, strength and accuracy for intended tasks (propulsion and execution)				
	N D	imbalance of speed, strength and accuracy on most tasks	imbalance of speed, strength and accuracy on some tasks	appropriate balance of speed, strength and accuracy on most tasks	appropriate balance of speed, strength and accuracy on every task
	Programming	<b>Programming Quality</b> Programs are appropriate for the intended purpose and should achieve consistent results, assuming no mechanical faults			
N D		would not achieve purpose AND would be inconsistent	would not achieve purpose OR would be inconsistent	should achieve purpose repeatedly	should achieve purpose every time
<b>Programming Efficiency</b> Programs are modular, streamlined, and understandable					
N D		excessive code and difficult to understand	inefficient code and challenge to understand	appropriate code and easy to understand	streamlined code and easy for anyone to understand
Automation/Navigation	<b>Automation/Navigation</b> Robot designed to move or act as intended using mechanical and/or sensor feedback (with minimal reliance on driver intervention and/or program timing)				
	N D	frequent driver intervention to aim AND retrieve robot	frequent driver intervention to aim OR retrieve robot	robot moves/acts as intended repeatedly w/ occasional driver intervention	robot moves/acts as intended every time with no driver intervention
	Strategy & Innovation	<b>Design Process</b> Developed and explained improvement cycles where alternatives were considered and narrowed, selections tested, designs improved (applies to programming as well as mechanical design)			
N D		organization AND explanation need improvement	organization OR explanation need improvement	systematic and well-explained	systematic, well-explained and well-documented
<b>Mission Strategy</b> Clearly defined and described the team's game strategy					
N D		no clear goals AND no clear strategy	no clear goals OR no clear strategy	clear strategy to accomplish well-defined goals	clear strategy to accomplish most/all game missions
<b>Innovation</b> Team identifies their sources of inspiration and creates new, unique, or unexpected feature(s) (e.g. designs, programs, strategies or applications) that are beneficial in performing the specified tasks					
N D	No original feature(s)	original feature(s) with some added value or potential	original feature(s) with the potential to add significant value	original feature(s) that add significant value	

### Comments

Great Job...

Your team excelled with your digital design process and multiple iterations. Great demonstration of team work and code well written and documented. Excellent use of external resources and multiple components for redundancy

Think about...

Your presentation was excellent however consider slowing down your explanation to improve clarity. Your enthusiasm and confidence was great to see!



# Core Values

Team Number 1  
 Judging Room 1 (CAPOI)

For each skill area, clearly mark the box that best describes the team's accomplishments. If the team does not demonstrate skill in a particular area, then put an 'X' in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve. Use the back for additional comments if needed.

		Beginning	Developing	Accomplished	Exemplary
Inspiration	<b>Discovery</b>	Team explored and improved skills or ideas within all three aspects (Robot, Innovation Project, Core Values) of FIRST® LEGO® League; used creativity & persistence to solve problems			
	N D	minimal examples / all examples from 1 aspect	some examples / examples from 2 aspects	multiple examples / examples from all 3 aspects	multiple examples of exploring new skills & ideas; extensive examples of improving in all 3 aspects
	<b>Team Identity</b>	Fun expression of team identity; team expresses how they enjoy FIRST LEGO League			
	N D	minimal identity; minimal enjoyment	some identity; enjoyment is unclear	clear identity; team clearly expresses their enjoyment	clear identity; team engages others in their enjoyment
Teamwork	<b>Impact</b>	Team applied knowledge, skills and/or values learned in FIRST LEGO League to improve themselves and their world			
	N D	unclear impact of FIRST LEGO League	knowledge, values or skills impacted some team members	knowledge, values or skills impacted all team members	knowledge, values or skills impacted all team members AND team used values or skills to help others
	<b>Effectiveness</b>	Problem solving and decision-making processes help team achieve their goals			
	N D	team goals AND team processes unclear	team goals OR team processes unclear	clear team goals and processes	clear processes enable team to accomplish well defined goals
Gracious Professionalism®	<b>Efficiency</b>	Resources used relative to what the team accomplishes (time management, distribution of roles and responsibilities); team is stronger together than its individual members			
	N D	limited time management / role definition	clear time management / role definition	good time management / role definition allows team to avoid wasting effort OR resources	excellent time management / role definition allows team to avoid wasting effort AND resources
	<b>Kids Do the Work</b>	Appropriate balance between team responsibility and coach guidance			
	N D	limited team responsibility AND excessive coach guidance	limited team responsibility OR excessive coach guidance	Good balance between team responsibility and coach guidance	team independence with appropriate coach guidance
Gracious Professionalism®	<b>Inclusion</b>	Consideration and appreciation for the contributions (ideas and skills) and differences of all team members.			
	N D	limited consideration / appreciation for contributions	consideration / appreciation for contributions of most team members	clear consideration / appreciation for contributions of all team members	all team members' contributions actively welcomed & recognized
	<b>Respect</b>	Team members act and speak with deference so others feel valued—especially when solving problems or resolving conflicts			
	N D	not evident with majority of team members	evident with majority of team members	clearly evident with all team members	clearly evident with all team members AND team encourages respect in others
Gracious Professionalism®	<b>Coopertition®</b>	Learning is more important than winning; Team learns from, teaches, and cooperates with each other and competing teams. Team competes in the spirit of friendly competition			
	N D	unclear or lack of team members cooperating with each other	team members cooperate with each other	team actively learns from and teaches teammates / celebrates other teams' successes	team actively helps, learns from, or collaborates with other teams AND celebrates other teams' successes

### Comments

Great Job...

The presentation was engaging and beautifully organized. Great to see mentoring between students of different areas.

Think about...

How to express your team's goal more clearly so judges understand the purpose of your collaboration better.