

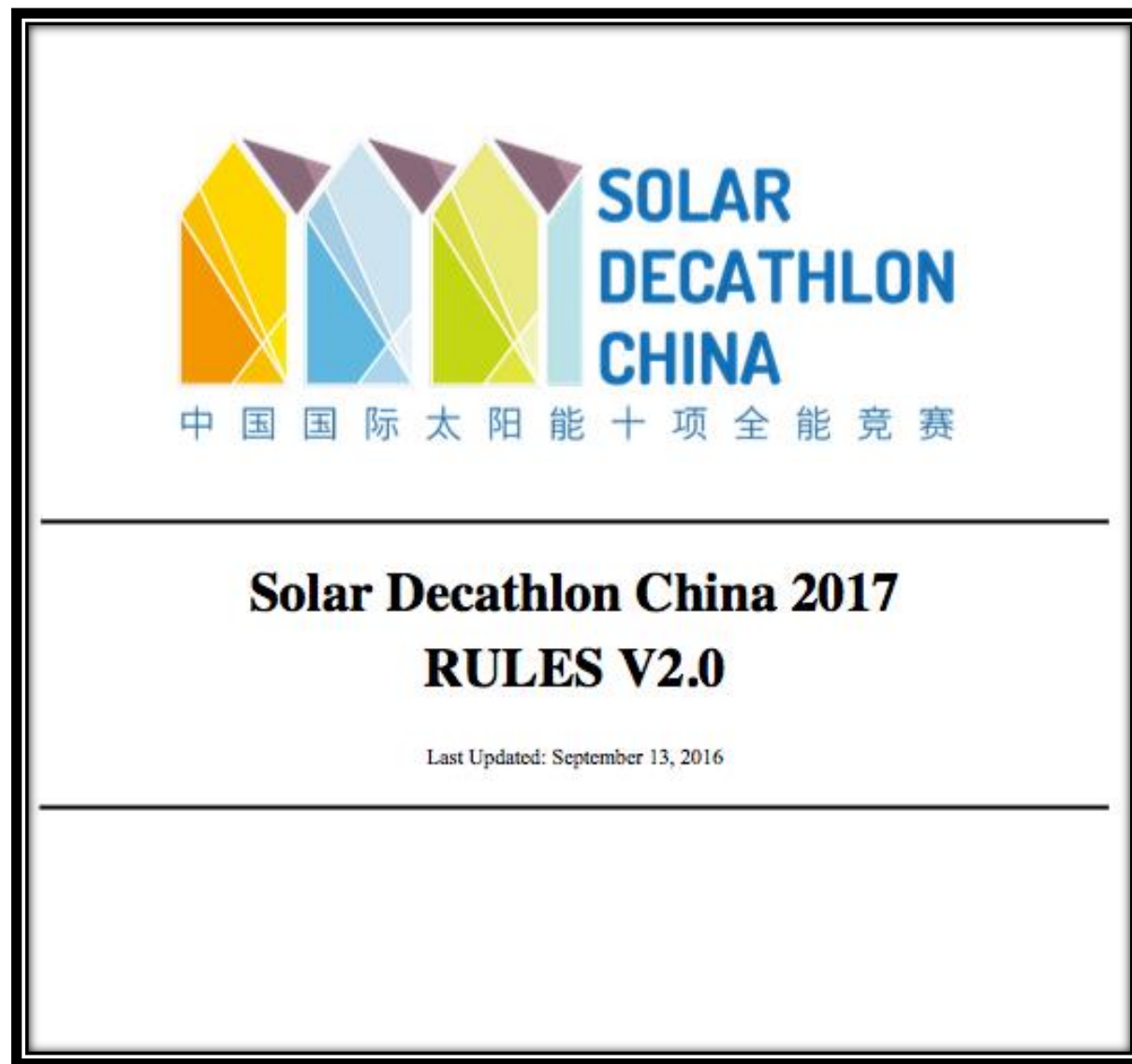


Rules & Final Competition

Lucas Li, Competition Manager
January 14, 2017

Contents

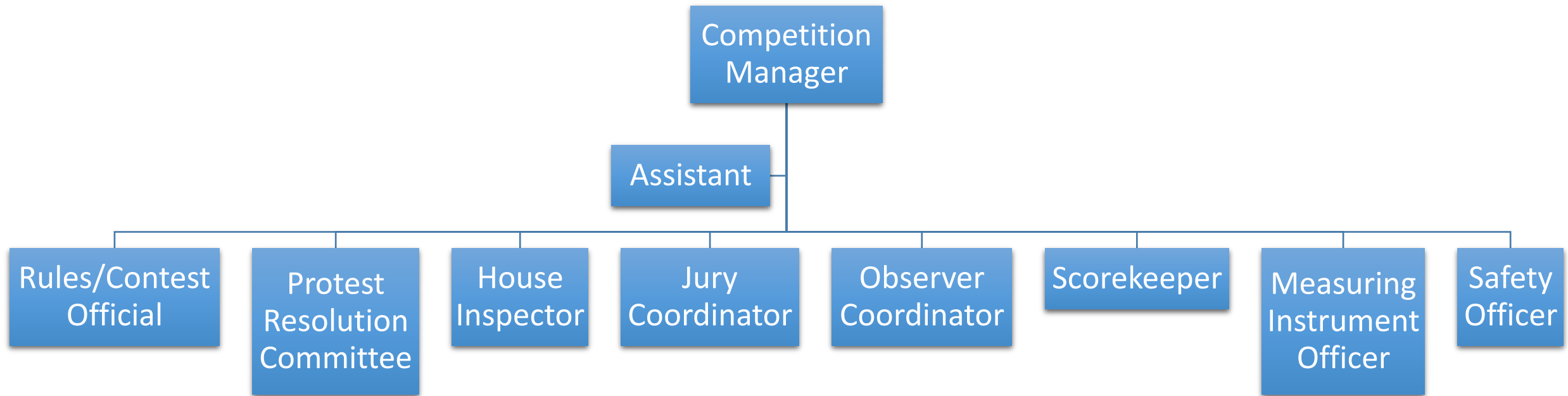
- General Rules
 - Key Personnel
 - Penalties
 - Protest Process
- Contest Criteria
 - Contest Structure
 - Juried Contests
 - Measured Contests
- Competition Deliverables
 - Schematic Design
 - Design Development
 - Construction Documentation



General Rules

Key Personnel | Penalties | Protest Process

Key Personnel



Penalties

- Teams committing rules infractions are subject to one or more of the following penalties:
 - Point penalty applied to one or more contests
 - Disqualification from part, or all, of one or more subcontests
 - Disqualification from the competition
- The rules officials determine the severity of rules infractions and classify them as **minor** or **major**.
- The chairman is solely authorized to disqualify a team from the competition. A prior notice and an opportunity will be given to the team to make an oral or written statement on its behalf.
- Teams shall self-report obvious or suspected rules infractions that have occurred or may occur.



Protest Process

- Official written protests may be filled by a team for any reason.
- A filling fee of 10 points may be assessed if the protest is deemed to be frivolous.
- Protests shall be submitted between 8 a.m. and 6 p.m., and within 24 hours of the action being protested.

Step 1

Communicate with the rules officials to resolve issues and complaints

Step 2

The team and the rules officials are unable to resolve the dispute
or
The team or the rules officials are too busy to engage in discussions

Step 3

Submit the protest to the competition manager in a **sealed envelope**

Step 4

Protest resolution committee opens the envelope and reads the protest in **private**, calls individuals for testimony

Step 5

The committee notifies the competition manager of its decision in writing and indicates how many points shall be assessed

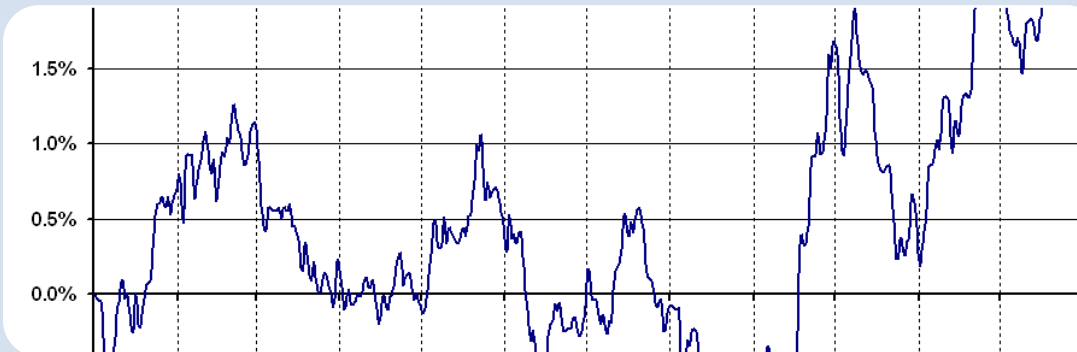
Step 6

The competition manager posts a copy of the written protest and decision on the Team Service Center

Contest Criteria

Contest Structure | Juried Contests | Measured Contests

Contest Structure



Juried Contests

- Architecture / 建筑设计
- Market Appeal / 市场潜力
- Engineering / 工程设计
- Communications / 宣传推广
- Innovation / 创新能力

Measured Contests

- Comfort Zone / 舒适程度
- Appliances / 家用电器
- Home Life / 生活起居
- Commuting / 电动通勤
- Energy Performance / 能源绩效

Contests 1 – 5: Juried

- A jury's evaluation of each team's project consists of three phases:

Deliverables Review

Drawings

Construction specifications

Audiovisual Presentation

Energy Analysis Results

Public Exhibit Presentation

On-site Walkthroughs

30 Minutes Daytime Walkthrough

10 Minutes Nighttime Walkthrough
(Architecture Jury Only)

Deliberation

Class #1: 91% - 100%

Class #2: 81% - 90%

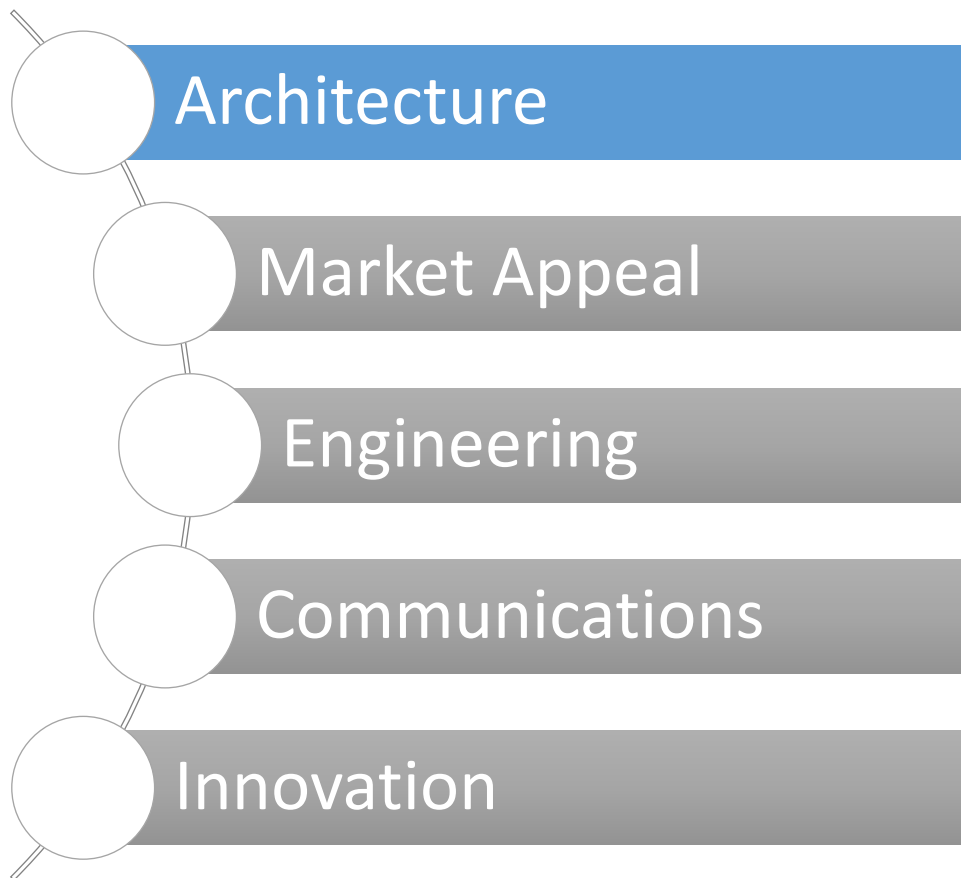
Class #3: 61% - 80%

Class #4: 0% - 60%

Contests 1 – 5: Jury Walkthrough

- Clear the house of visitors and get ready for the arrival of juries. A “runner” will deliver a warning 30 to 60 minutes prior to the arrival of the jury
- Show all possible configurations of the house, including reconfigurable features to juries.
- Daytime walkthrough: 30 minutes. 20 minutes to go through the house and ask questions. 10 minutes to have a private discussion without the presence of team members.
- Nighttime walkthrough: 10 minutes. Only Architecture Jury. 5 minutes to go through the house and 5 minutes private discussion.
- Audiotape or videotape the jury walkthrough is allowed, but taping of the private jury discussion is prohibited.

Contests 1 – 5: Juried



Concept

- A clear idea to guide the whole design process

Design Approach

- Overall coherence among architectural, structural, mechanical, electrical, plumbing, etc.

Implementation

- Architectural elements, natural and electric lighting, material selection, etc.

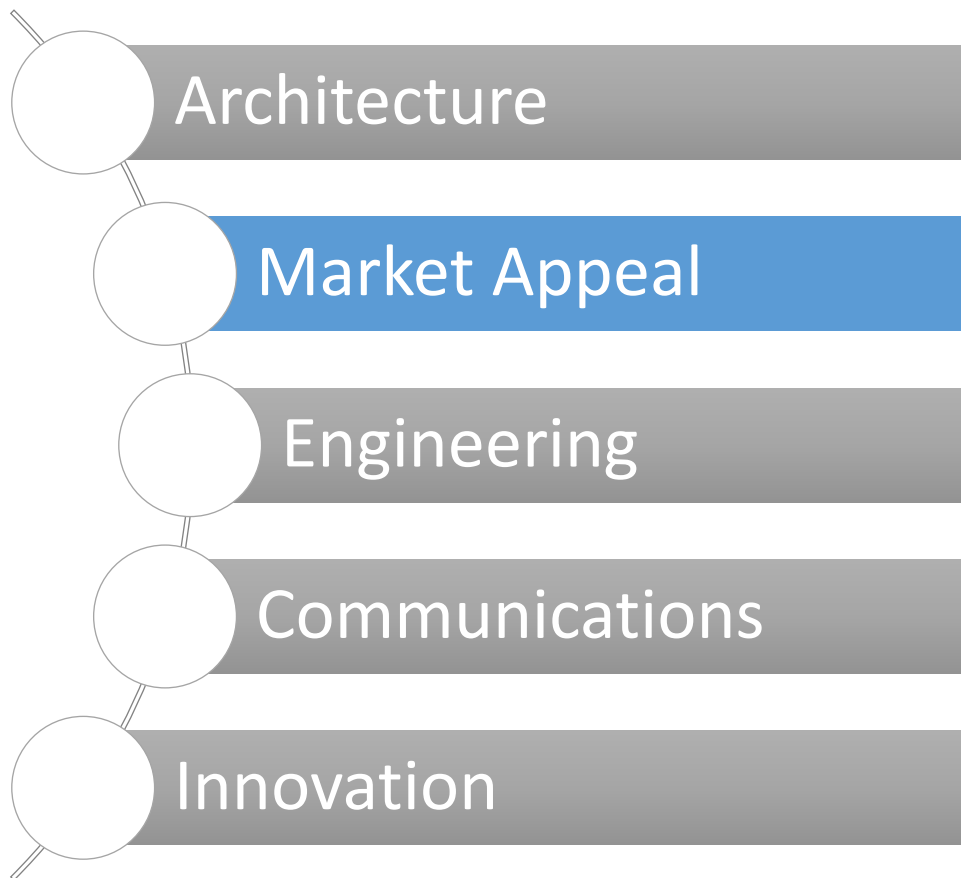
Innovation

- Innovative approach to addressing residential architecture

Documentation

- Effective and accurate deliverables

Contests 1 – 5: Juried



Livability

- A safe, functional, convenient, comfortable, and enjoyable place to live

Marketability

- Exterior and interior appeal, good value to the target client

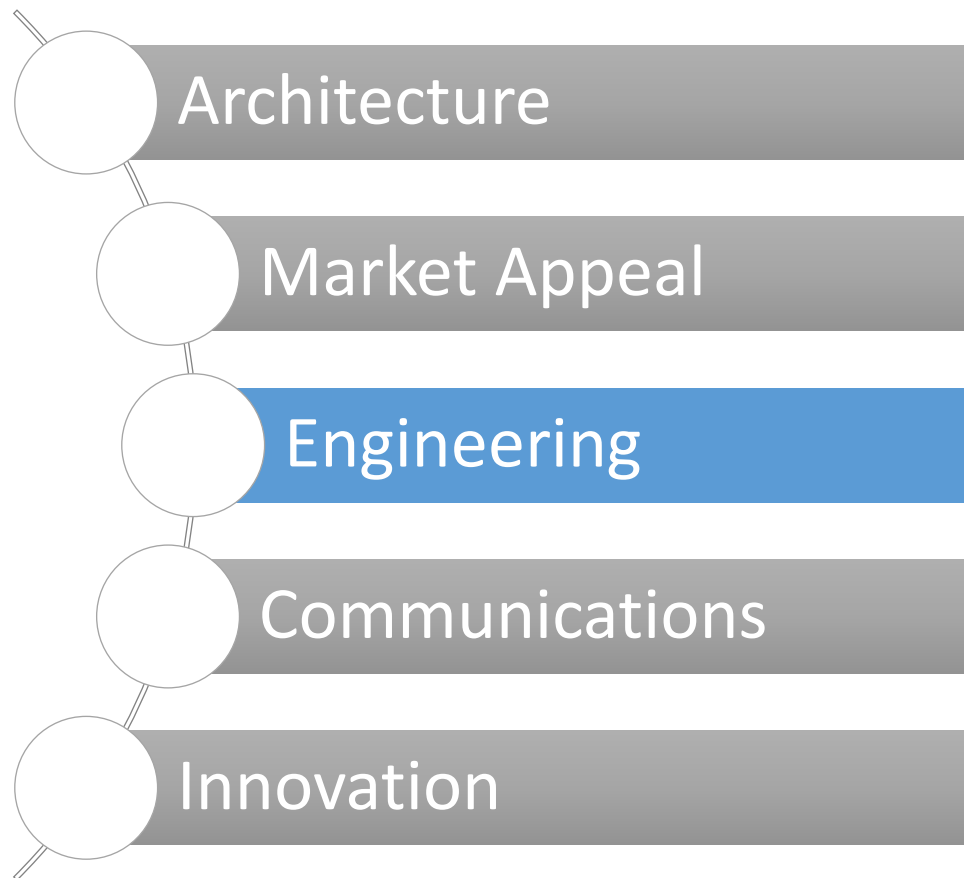
Buildability

- Documentation with sufficient quality and details for contractors

Affordability

- Manage the cost according to the target client

Contests 1 – 5: Juried



Innovation

- Unique approaches to solving engineering design challenges

Functionality

- House system (HVAC) enhancing occupant comfort and house performance

Efficiency

- Energy efficiency, energy saving, overall system performance

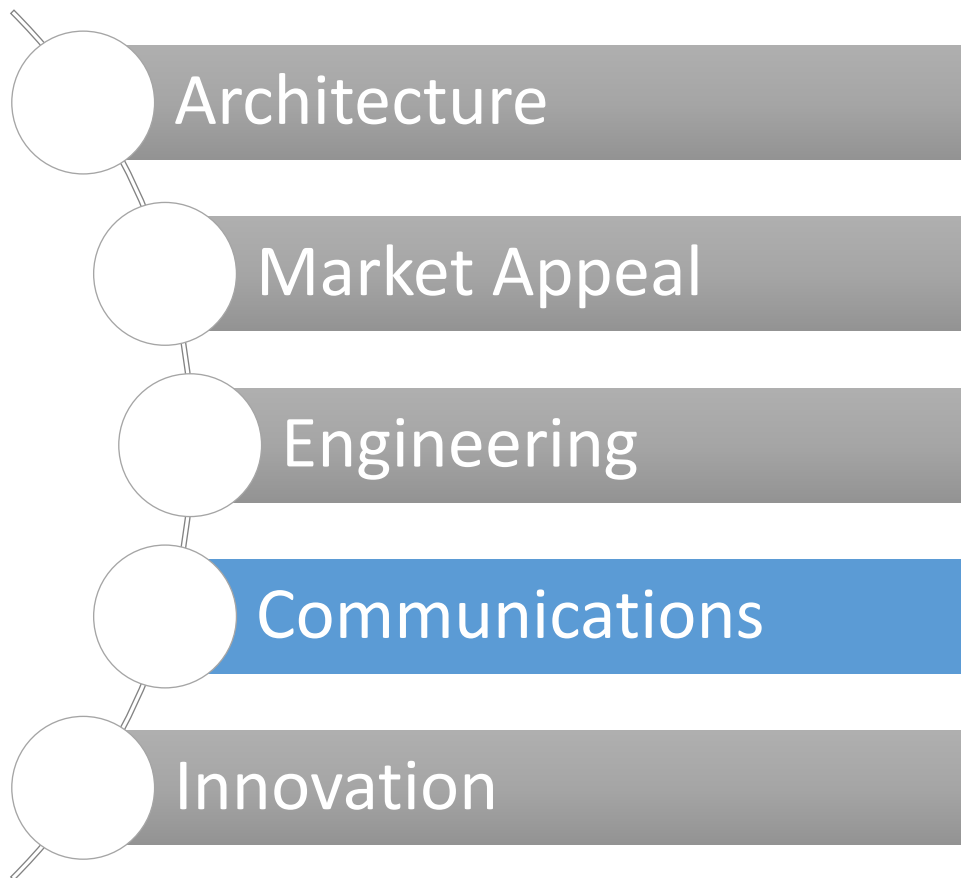
Reliability

- Maintenance and owner operation of house systems

Documentation

- Effective and accurate deliverables

Contests 1 – 5: Juried



Communications Strategy

- Comprehensive, consistent, and integrated

Electronic Communications

- Logical, consistent, enjoyable, successful online user experience

Public Exhibit Materials

- Creative, original and informative materials

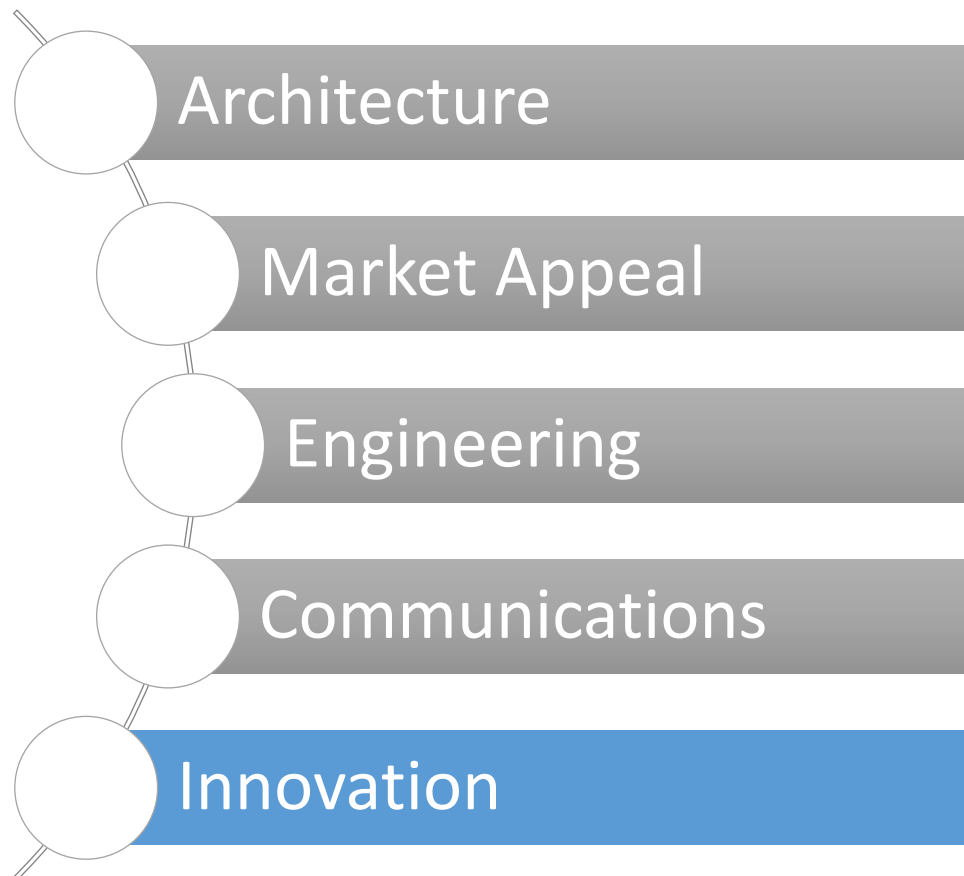
Public Exhibit Presentation

- Informative, interesting, engaging, and audience-appropriate

Audiovisual Presentation

- Interesting, informative and effective

Contests 1 – 5: Juried



Water Usage

- Creative water conservation strategies

Air Quality

- Creative air purification strategies for a clean and healthy indoor air quality

Space Heating

- Creative space heating strategies

Others

- Other innovative approaches, unique or atypical technologies, holistic active and passive solutions, etc.

Contests 6 – 10: Measured Contests

Monitored Performance

Managed by the instrumentation team

Utilizes data acquisition equipment

Incorporates sensors throughout each house

Task Completion

Managed by the task completion contest officials with assistance from observers

Points earned for completing tasks

Results recorded by the observers

Contest 6 – 10: Monitored

- Monitored throughout the contest period, but not scored during public exhibit hours
- Accumulating scores of moments at every 15 minutes
- Maintain monitored parameters within required range

Temperature (40 points)

- Keep zone temperature in 22°C to 25°C range

Solar Decathlon China 2017

Humidity (20 points)

- Keep zone relative humidity below 60%

CO2 Level (20 points)

- Keep zone CO2 level below 1000 ppm

PM2.5 level (20 points)

- Keep zone PM2.5 level below 35 ug/m3

Refrigerator (10 points)

- Keep refrigerator temperature in 1°C to 4°C range

Freezer (10 points)

- Keep freezer temperature in -30°C to -15°C range

Energy Balance (80 points)

- A net electrical energy balance of at least 0 kWh

Generating Capacity (20 points)

- Calculating energy production per unit PV area (kWh/m2)

Contest 7 – 8. Tasks

Clothes washer (16 points)

- Wash eight loads of laundry (one load = six bath towels)

Clothes drying (32 points)

- Return eight loads of laundry to their original weight

Dishwasher (17 points)

- Wash five loads of dishes (one load = eight place settings)

Cooking (15 points)

- Perform five cooking tasks (one task = vaporize 2 kg of water in less than 2 hours)

Lighting (25 points)

- All lights on at full levels at night

Hot Water (50 points)

- Successfully conduct 16 water draws

Home Electronics (10 points)

- Operate a TV and computer during specified hours

Dinner party (10 points)

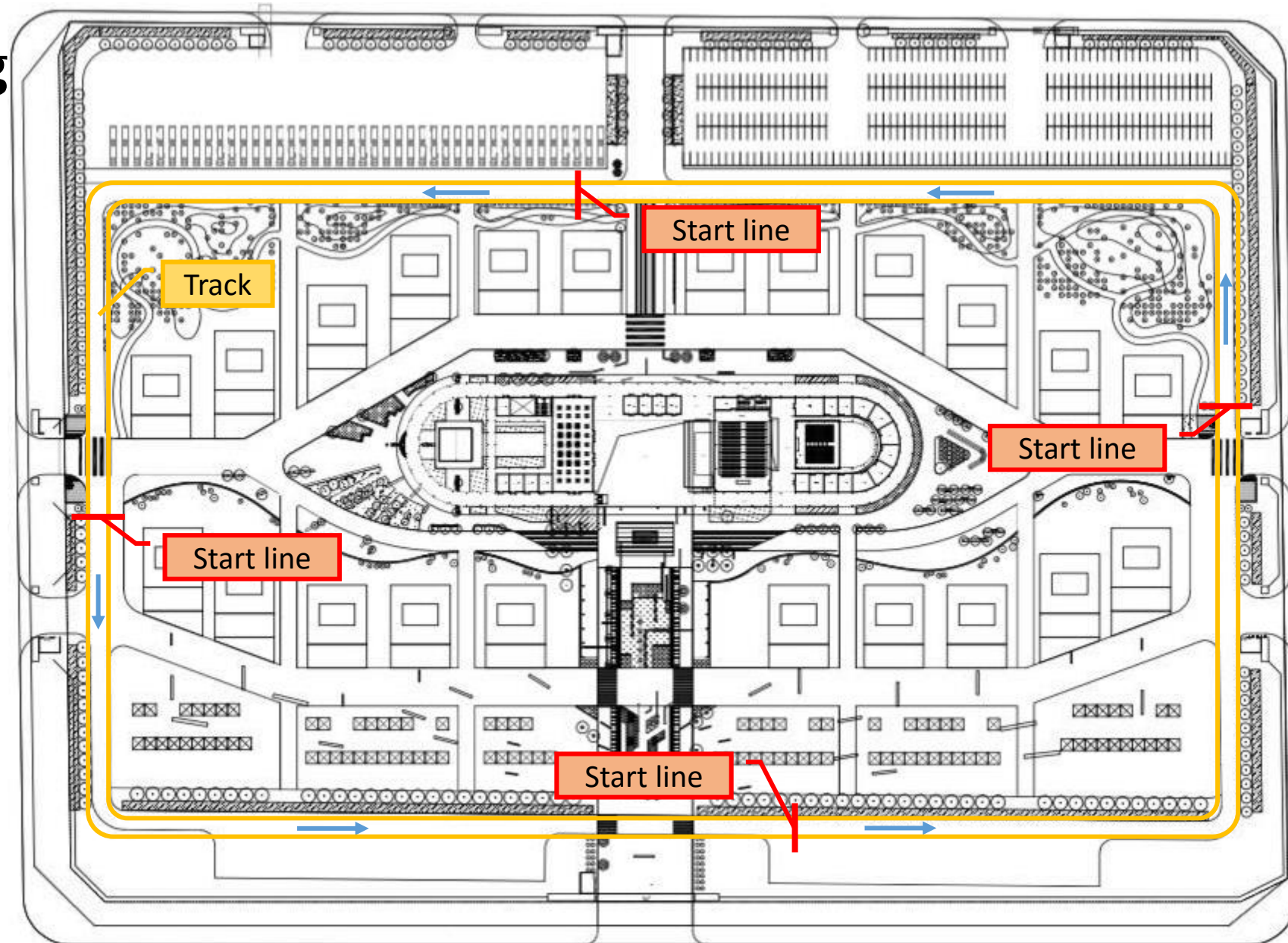
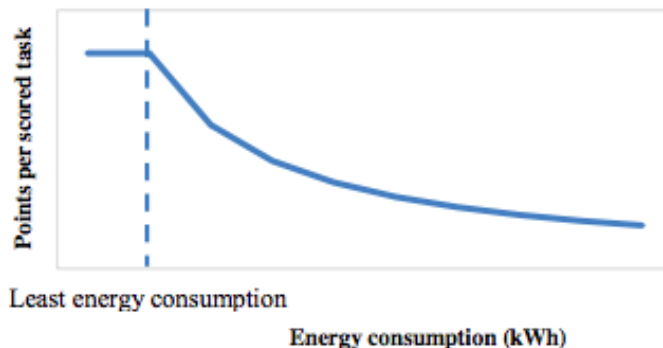
- Host two dinner parties for up to eight guests

Movie night (5 points)

- Host neighbors to watch a movie on the home theater system

Contest 9 Commuting

- Driving track
 - Drive 15 laps in 1 hour each time
 - Drive 4 times in total each team
- Four start lines
 - 1 or 2 vehicles at each start line
 - Drive anti-clockwise
- The less amount of electricity consumed, the more points earned



Competition Deliverables

Schematic Design | Design Development | Construction Documentation

Competition Deliverables

Schematic Design

Reviewed by the organizers

Feedbacks will be provided

Design Development

Represent **90%** complete construction documentation

Thorough rules and building code compliance review

Construction Documentation

Represent **100%** complete construction documentation

Final rules and building code compliance verification

Jury Deliverables

Represent the as-built competition prototype house

Viewed by each jury prior to arrival on the competition site

Final Report

Reflect the results of the team's SDC project

Help organizer improve future events

Thank you