ANNEX 1 SCALE SPACE MODELS JUDGE'S GUIDE

FAI CATEGORY	SUBCATEGORY	JUDGING CONSIDERATIONS	POINTS
Degree of Difficulty	Configuration	To what degree does the entry depart from the configuration of a "finned cone-topped cylinder.	(0-20) **(0-30)**
	The head part of the model	**cone-1 point; ogive - 3 points; spherical-5 points (if the diameter is more than 20 mm) - 5 points**	**0-5**
	Side blocks	**up to 3 side blocks - 5 points; more than 3 blocks-10 points**	**0-10**
	Adapters (quantity in the body, excluding the adapter on the side blocks)	**cone-1 point; ogive - 3 points; truss-5 points** **max. 15 points**	**0-15**
	External Components	Consider the number and complexity of the entry's external components including fins, transitions, interstage adapters, shrouds, strap-on booster, launch lugs, antennae, etc. Also consider to what extent the aforementioned components were prefabricated by none other than the entrant.	(0-20)
	Fins	**1,5 points for each fin, maximum 12 points**	**0-12**
	Nozzles	**1,5 points for each nozzle on 1st stage, maximum 12 points**	**0-12**
	Gargrots	**1 point for each gargrot or external pipeline of length not less than 100 mm), maximum 5 points**	**0-5**
	Antennae	**0,25 point for each antenna, maximum 1 point**	**0-1**
	Launch lugs	**0,25 point for each launch lugs, maximum 1 point**	**0-1**
	Shrouds	**1 points for each shroud larger than 15 mm, maximum 4 points**	**0-4**
	Other component		**0-5**
	Detailing	Consider the number of separate details including nuts, bolts, screws, rivets, fasteners, welds, hatches, panels, corrugations, etc. Also consider to what extent the aforementioned details were prefabricated by anyone other than the entrant	(0-20)
	Screws, nuts, rivets, spot welding	**You must compare the model with the largest number of other models. Estimate to put in a percentage.**	**0-10**
	Welds	**1,5 point for every 5 belt welds. Maximum 9 points**	**0-9**
	Hatches	**1 point for every 2 hatches. Maximum 10 points**	**0-10**
	Corrugations/panel milling	**Up to 1,5 points in one zone of the corrugations/panel milling. Maximum 6 points**	**0-6**
	Other detail		**0-5**
	Paint Pattern	consider the number of colours and complexity of the entry point pattern. Also consider the number and complexity of the entry's markings and to what extent these markings were prefabricated by anyone other than the entrant.	(0-20)
	"Flyability"	Consider the difficulty in adapting the entry to make a qualified flight including absence of fins, small fin area, extremes of CP and/or CG, etc.	(0-30) **(0-20)**

	"Originality"	Bonus points: 40 points for a prototype of one kind in the competition; 20 points if there are two of the same prototype; zero points if there are three models of the same DrototvDe..	(0-40)

Together with the flight sheet to submit to the judges a sheet with a cyclogram of the flight.
Example as below.

- ehe cyclogram must be filled before each flight.
- note that in flight No. 1, the separation of the head part occurs in the active phase of the flight according to the cyclogram. This special effect should be encouraged by higher scores than the separation of the head in the final phase of the flight as in flight No. 2.

CYCLOGRAM OF THE FLIGT

Competitor			
Team			
FAI license number			
Competitor number			
Prototype			
	PROTOTYPE	**Flight №1**	**Flight №2**
1	**Start**	**Start**	**Start**
2	**Separation 1 stage**	**Separation 1 stage**	**Separation 1 stage**
3	**Separation head part**	**Separation head part**	**Separation head part**
4	**Separation 2 stage**	**Separation 2 stage**	**Separation 2 stage**
5	**Upper stage flight (3 stage)**	**Upper stage flight (3 stage)**	**Upper stage flight (3 stage)**
6	**Separation spacekraft**	**Separation spacekraft**	**Separation spacekraft**
7			**Separation head part**

Flight Characteristics	Launch	Was the launch successful? If not, subtract 10 points for each misfire or hang-fire for a maximum of minus 30 points (0 or minus)	
		Realism of launch compared to prototype. Was the take-off speed abrupt or was it a smooth lift off from the launch pad?	~~(0-30)~~ **(0-25)**
	Flight	Realism of flight. Was it a vertical flight without weather-cocking of launcher tip-off? No rotation unless prototype rotated. Stable straight flight without oscillation?	~~(0-30)~~ **(0-20)**
	Special Effects	Did the model exhibit any special effects such as Launching a space probe, separating boosters, radio control devices, ejecting satellites, deploying shield, scale launcher, gliding recovery etc. Special effects can only emulate the actions of the prototype. Maximum of 15 points for each effect.	~~(0-60)~~ **(0-85)**
	Special effects before start	**Acoustic effects (simulation time reference, etc.)**	**0-2**
	-	**Smoke**	**0-3**
	-	**Simulation of mechanical operation of starting devices (removal of service trusses, installation of the model from horizontal to vertical position, etc.)**	**0-5**
	Special effects in active flight phase	**Separation of model components with engine (4 stage, upper stage, spacecraft, busters etc.). Up to 15 points for each special effect, maximum 30 points. In case of separation of several side blocks, it is considered as 1 special effect**	**0-30**

	-	**-**	**-**
	-	**-**	**-**
	-	**Separation of model components without engine (emergency rescue system, transition compartments, covers, head fairing, etc.) Up to 10 points for each special effect, maximum 30 points.**	**0-30**
	-	**-**	**-**
	-	**-**	**-**
	-	**-**	**-**
	Special effects in the final phase of the flight	**Separation of external and internal components of the model in the final phase of the flight**	**-**
	-	**emission of clouds, aerosols and other loose substances**	**0-2**
	-	**ejection of model spacecraft or other device No. 1**	**0-2**
	-	**ejection of model spacecraft or other device No. 2**	**0-2**
	-	**the separation of payload fairing**	**0-2**
	-	**other special effects not associated with the separation of components (simulation of the sound of blasting the warhead, simulation of data transmission from the missile to the station on the ground, etc.)**	**0-2**
	Other special effects not suitable for the above categories	**-**	**0-5**
	Staging	Add 25 points for each successful stage separation. No points for a single stage model.	~~(0-60)~~ **(0-50)**
	Clusters	Add 5 points for each engine that ignites up to a maximum. No points for single engine models.	(0-30)
	Staging and Cluster Misfires	Subtract 15 points for each engine that fails to ignite.	(0 or minus)
	RC Gliding Descent	Stabile gliding, realism of gliding descent of the prototype and safe landing without damage.	(0-50)
	Recovery	Single stage model (or booster stage) Recovery device deployment (1 parachute -10 points)	(0-20)
		Multi stage model (upper stage(s)) Recovery device deployment (1 parachute -10 points, 1 streamer - 5 points	(0-20)
		Category Total (300 Max)	