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Illustrations of monoSTU

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Key technical and cost characteristics of various types of a single-rail STU (monoSTU) implemented in the territory of any country (except Russia)

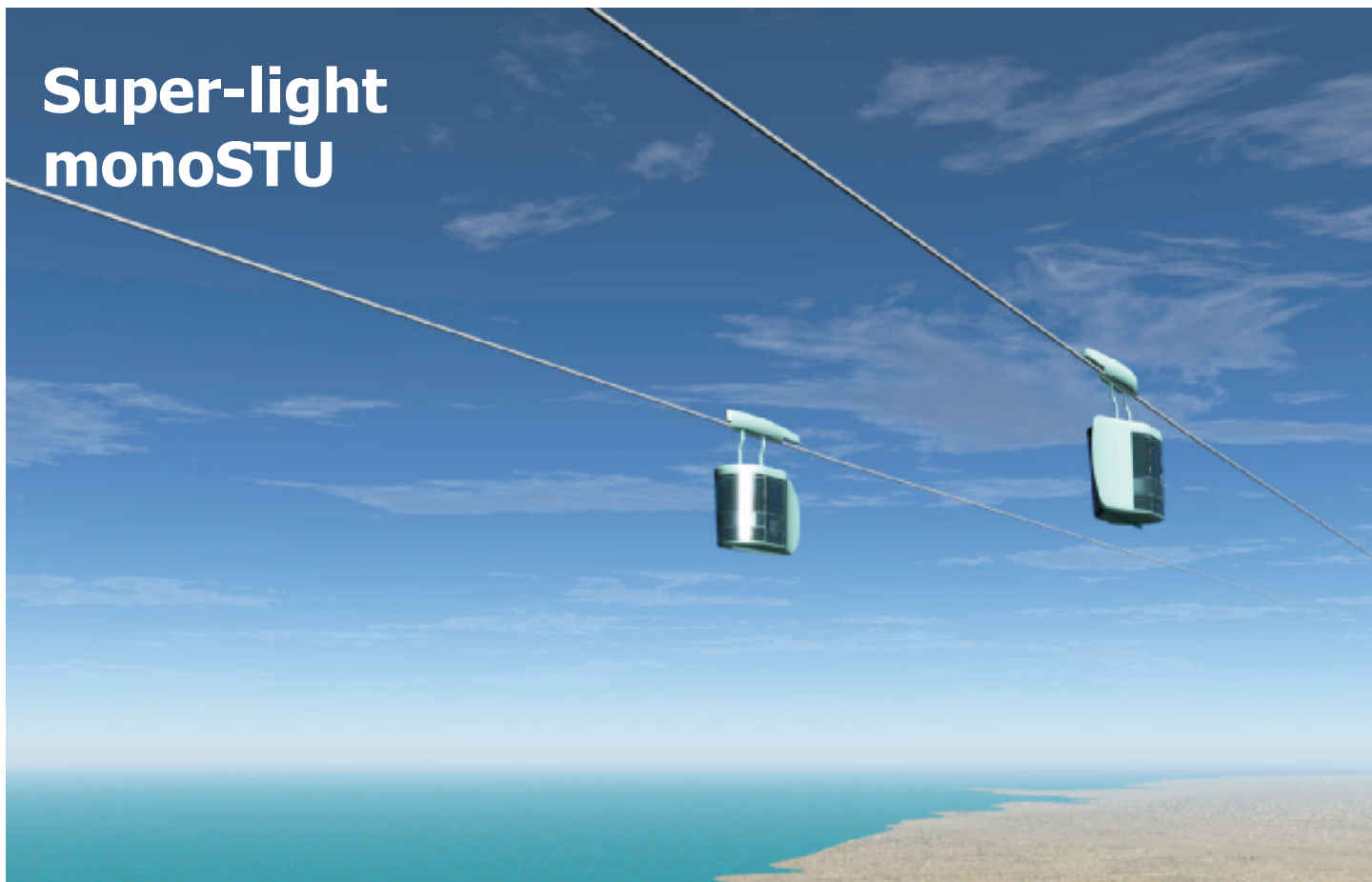
(double-track flat routes with the length of more than 10 km built beyond the boundaries of urban built-up area*)

Types of a monoSTU	Key technical characteristics of passenger / freight STU	Approximate construction cost** of passenger monoSTU routes by the operational speed regimes, mln. €/km			
		STU component	up to 50 km/hour	up to 100 km/hour	up to 150 km/hour
Super-light 	Span length, m up to 1000 Mono-unibus carrying capacity: pass. / ton up to 2 / 0.2 Volume of transportation per 24 hours: thous. pass. / thous. ton up to 20 / 2	Track, supports Stations, depot Mono-unibuses Total:	0.6—0.8 0.8—1.3 0.2—0.3 1.6—2.4	0.8—1.2 1.3—1.6 0.3—0.4 2.4—3.2	1.2—1.6 1.6—2.0 0.4—0.6 3.2—4.2
Light 	Span length, m up to 1500 Mono-unibus carrying capacity: pass. / ton up to 5 / 0.5 Volume of transportation per 24 hours: thous. pass. / thous. ton up to 50 / 5	Track, supports Stations, depot Mono-unibuses Total:	0.8—1.2 1.3—1.6 0.3—0.4 2.4—3.2	1.2—1.8 1.6—2.0 0.4—0.6 3.2—4.4	1.8—2.4 2.0—2.4 0.6—0.8 4.4—5.6
Medium 	Span length, m up to 2000 Mono-unibus carrying capacity: pass. / ton up to 10 / 1 Volume of transportation per 24 hours: thous. pass. / thous. ton up to 100 / 10	Track, supports Stations, depot Mono-unibuses Total:	1.2—1.8 1.6—2.4 0.4—0.6 3.2—4.8	1.8—2.4 2.4—3.2 0.6—0.8 4.8—6.4	2.4—3.0 3.2—4.0 0.8—1.0 6.4—8.0
Heavy 	Span length, m up to 2500 Mono-unibus carrying capacity: pass. / ton up to 20 / 2 Volume of transportation per 24 hours: thous. pass. / thous. ton up to 200 / 20	Track, supports Stations, depot Mono-unibuses Total:	1.8—3.0 2.0—3.0 0.6—0.8 4.4—6.8	3.0—4.0 3.0—4.0 0.8—1.0 6.8—9.0	4.0—5.0 4.0—5.0 1.0—1.2 9.0—11.2
Super-heavy 	Span length, m up to 3000 Mono-unibus carrying capacity: pass. / ton up to 50 / 5 Volume of transportation per 24 hours: thous. pass. / thous. ton up to 500 / 50	Track, supports Stations, depot Mono-unibuses Total:	3.0—4.2 3.0—4.0 0.8—1.0 6.8—9.2	4.2—5.4 4.0—5.0 1.0—1.4 9.2—11.8	5.4—6.6 5.0—6.0 1.4—1.8 11.8—14.4

* the total cost will be 20—50% higher for STU routes built under conditions of rugged terrain or urban built-up environment or for shorter STU routes. The cost of freight routes will be 20—30% less than that of passenger routes and the cost of electrified (with a contact network) routes will be 20—30% higher

** the given cost (in prices as of January 1, 2007) refers to monoSTU routes with single mono-unibuses (not more than two modules per 1 span) circulating along the track

Super-light monoSTU



Lowest-cost transportation system of the "second level"

Double-track route (without infrastructure and mono-unibuses):

- from 0.6—0.8 mln. €/km on a plain;
- from 0.6—1.0 mln. €/km in a city or in the mountains.

Most economically efficient transportation system of the "second level"

Energy consumption by a mono-unibus at the travel speed of 100 km/hour:

- 0.6—0.8 kWt·hour/100 pass·km;
- 0.15—0.2 litre of fuel/100 pass·km.

Most environmentally friendly transportation system of the "second level"

Land allocations for monoSTU route (without infrastructure):

- 40—60 sq. m/km;
- 0.004—0.006 ha/km.

Most affordable transportation system of the "second level"

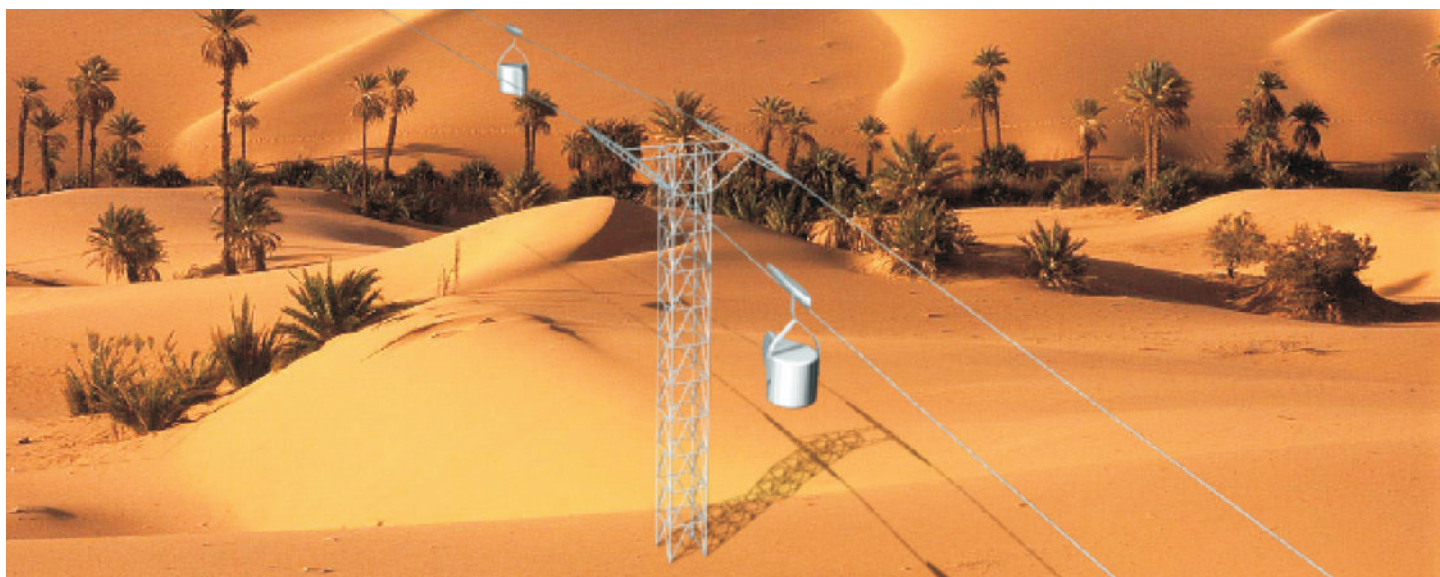
Net cost of passenger travel:

- 0.3—0.4 €/100 pass·km with the costs paid back during 1—3 years.

Lowest-cost hanging self-propelled vehicle

The cost of a 2-seat passenger mono-unibus:

- 15,000—20,000 € — serial production;
- 30,000—50,000 € — small-scale production;
- 60,000—80,000 € — individual order.



Light monoSTU



Lowest-cost transportation system of the "second level"

- Double-track route (without infrastructure and mono-unibuses):
- from 0.8—1.2 mln. €/km on a plain;
 - from 1.2—1.6 mln. €/km in a city or in the mountains.

Most economically efficient transportation system of the "second level"

- Energy consumption by a mono-unibus at the travel speed of 100 km/hour:
- 0.6—0.8 kWt·hour/100 pass.·km;
 - 0.15—0.2 litre of fuel/100 pass.·km.

Most environmentally friendly transportation system of the "second level"

- Land allocations for monoSTU route (without infrastructure):
- 60—80 sq. m/km;
 - 0.006—0.008 ha/km.

Most affordable transportation system of the "second level"

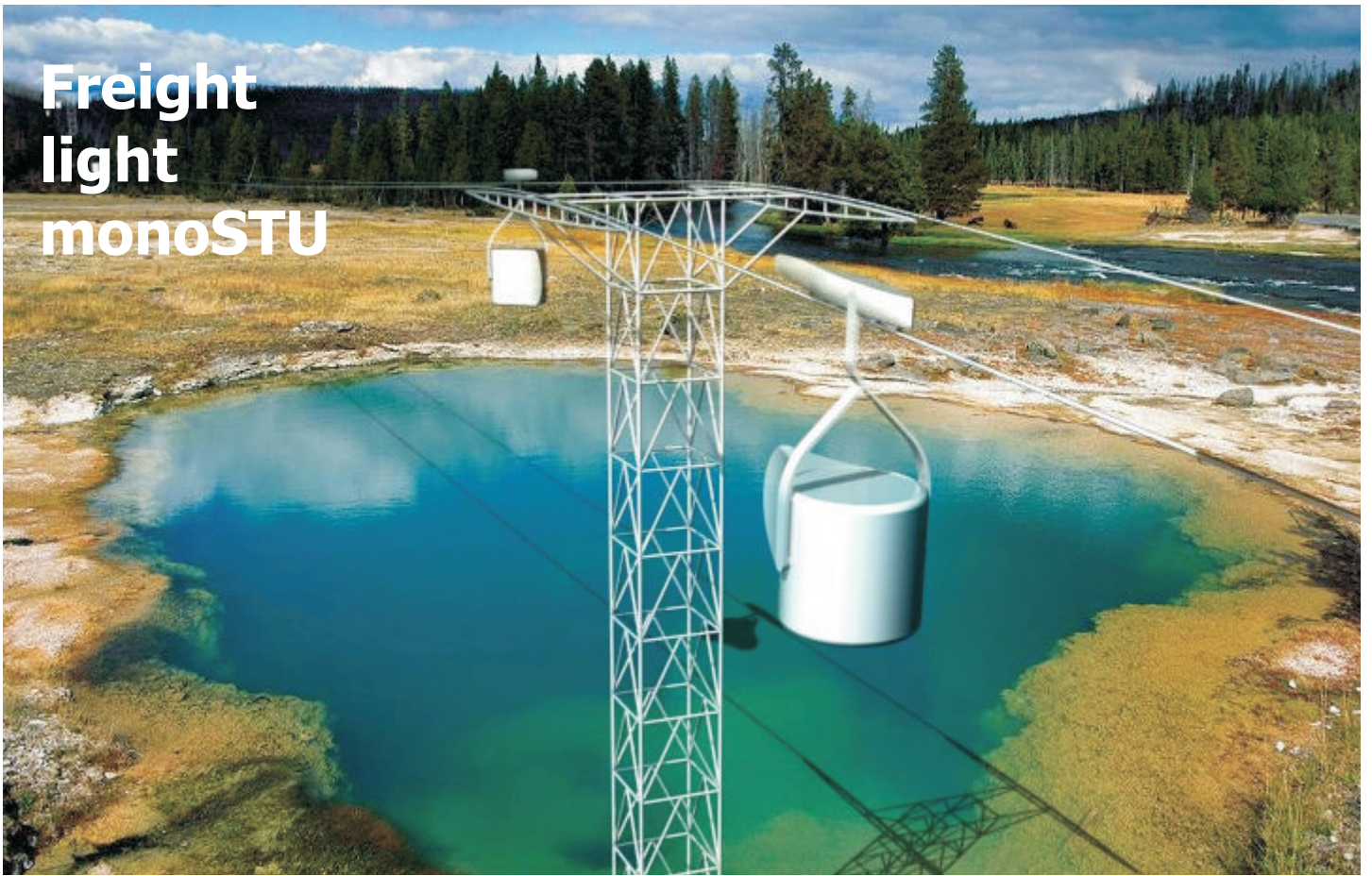
- Net cost of passenger travel:
- 0.4—0.5 €/100 pass.·km with the costs paid back during 2—3 years.

Lowest-cost hanging self-propelled vehicle

- The cost of a 5-seat passenger mono-unibus:
- 30,000—40,000 € — serial production;
 - 60,000—80,000 € — small-scale production;
 - 90,000—120,000 € — individual order.



Freight light monoSTU



Lowest-cost transportation system of the "second level"

- Double-track route (without infrastructure and mono-unibuses):
- from 0.3—0.5 mln. €/km on a plain;
 - from 0.5—0.7 mln. €/km in the mountains.

Most economically efficient transportation system of the "second level"

- Energy consumption by a mono-unibus at the travel speed of 100 km/hour:
- 1.0—1.5 kWt·hour/100 ton·km;
 - 0.3—0.5 litre of fuel/100 ton·km.

Most environmentally friendly transportation system of the "second level"

- Land allocations for monoSTU route (without infrastructure):
- 30—50 sq. m/km;
 - 0.003—0.005 ha/km.

Most affordable transportation system of the "second level"

- Net cost of freight transportation:
- 0.5—1.0 €/100 ton·km with the costs paid back during 2—3 years.

Lowest-cost hanging self-propelled vehicle

- The cost of a 1-ton freight mono-unibus:
- 6,000—10,000 € — serial production;
 - 15,000—20,000 € — small-scale production;
 - 30,000—50,000 € — single-unit production.



Medium monoSTU



Lowest-cost transportation system of the "second level"

Double-track route (without infrastructure and mono-unibuses):

- from 1.2—1.8 mln. €/km on a plain;
- from 1.6—2.2 mln. €/km in a city or in the mountains.

Most economically efficient transportation system of the "second level"

Energy consumption by a mono-unibus at the travel speed of 100 km/hour:

- 0.6—0.8 kWt·hour/100 pass.·km;
- 0.15—0.2 litre of fuel/100 pass.·km.

Most environmentally friendly transportation system of the "second level"

Land allocations for monoSTU route (without infrastructure):

- 80—100 sq. m/km;
- 0.008—0.01 ha/km.

Most affordable transportation system of the "second level"

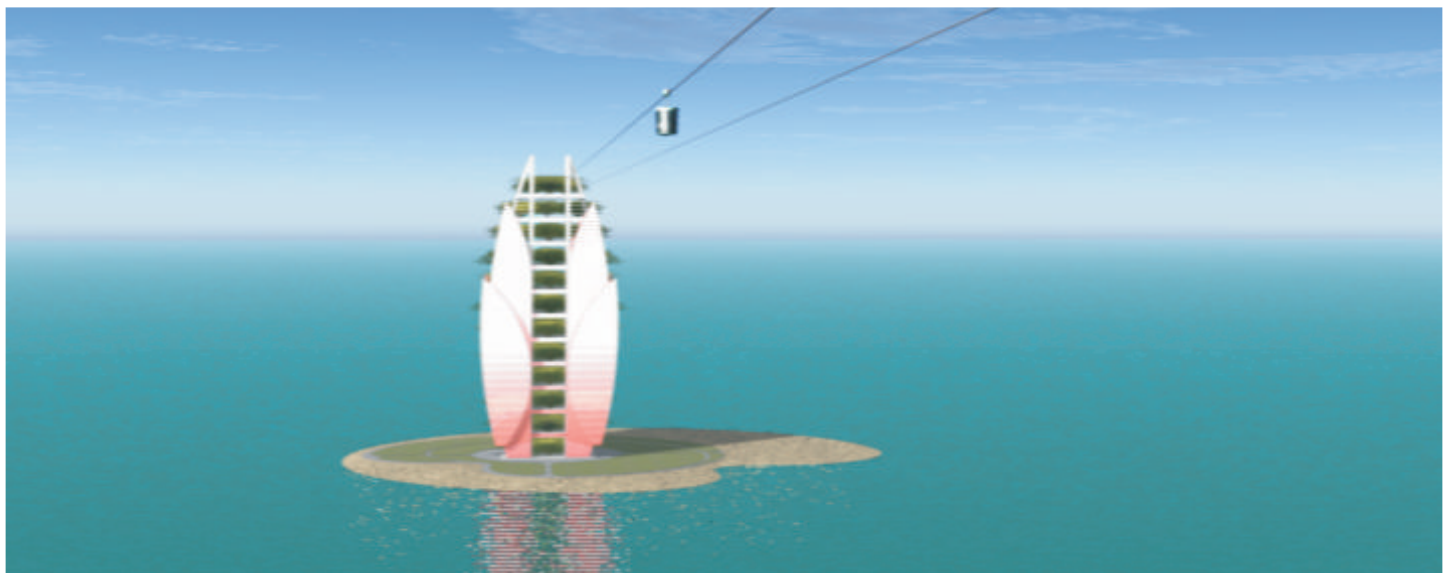
Net cost of passenger travel:

- 0.5—0.6 €/100 pass.·km with the costs paid back during 2—3 years.

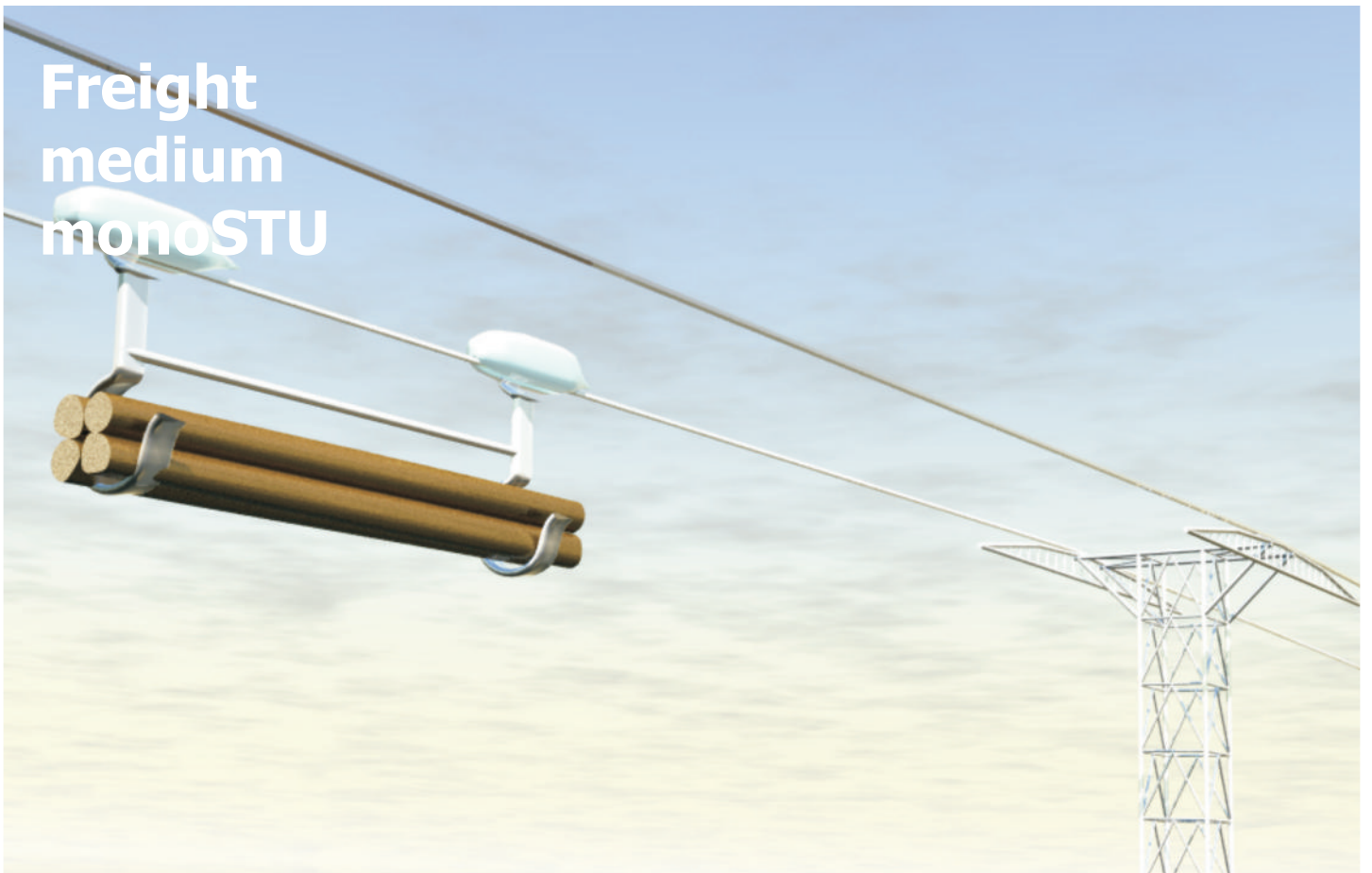
Lowest-cost hanging self-propelled vehicle

The cost of a 10-seat passenger mono-unibus:

- 40,000—60,000 € — serial production;
- 80,000—100,000 € — small-scale production;
- 150,000—200,000 € — individual order.



Freight medium monoSTU



Lowest-cost transportation system of the "second level"

Double-track route (without infrastructure and mono-unibuses):

- from 0.4—0.6 mln. €/km on a plain;
- from 0.6—0.8 mln. €/km in the mountains.

Most economically efficient transportation system of the "second level"

Energy consumption by a mono-unibus at the travel speed of 100 km/hour:

- 1.0—1.5 kWt·hour/100 ton·km;
- 0.3—0.5 litre of fuel/100 ton·km.

Most environmentally friendly transportation system of the "second level"

Land allocations for monoSTU route (without infrastructure):

- 40—60 sq. m/km;
- 0.004—0.006 ha/km.

Most affordable transportation system of the "second level"

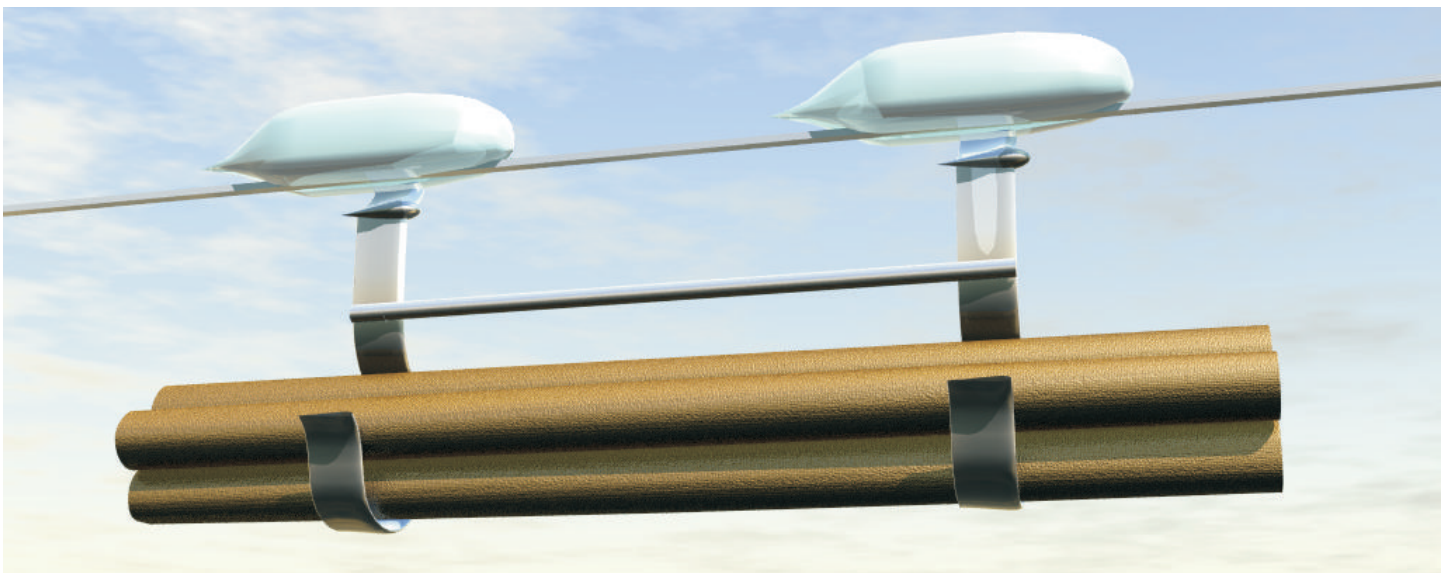
Net cost of freight transportation:

- 0.5—1.0 €/100 ton·km with the costs paid back during 2—3 years.

Lowest-cost hanging self-propelled vehicle

The cost of a 2-ton freight mono-unibus:

- 10,000—15,000 € — serial production;
- 20,000—30,000 € — small-scale production;
- 40,000—60,000 € — single-unit production.



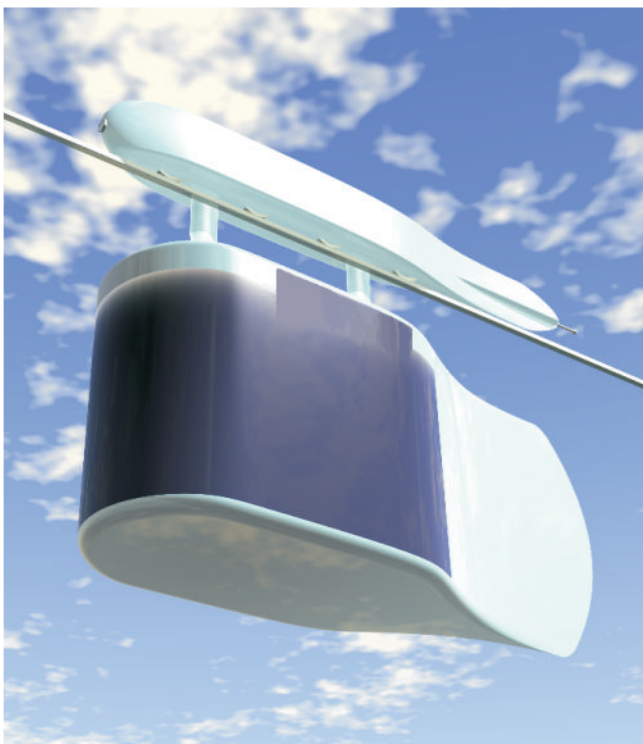
Heavy monoSTU



Lowest-cost hanging self-propelled vehicle

The cost of a 20-seat passenger mono-unibus:

- 60,000—90,000 € — serial production;
- 120,000—150,000 € — small-scale production;
- 250,000—300,000 € — individual order.



Lowest-cost transportation system of the "second level"

Double-track route
(without infrastructure and mono-unibuses):

- from 1.8—3.0 mln. €/km on a plain;
- from 2.4—3.6 mln. €/km in a city or in the mountains.

Most economically efficient transportation system of the "second level"

Energy consumption by a mono-unibus
at the travel speed of 100 km/hour:

- 0.6—0.8 kWt·hour/100 pass.·km;
- 0.15—0.2 litre of fuel/100 pass.·km.

Most environmentally friendly transportation system of the "second level"

Land allocations (without infrastructure):

- 100—150 sq. m/km;
- 0.01—0.015 ha/km.

Most affordable transportation system of the "second level"

Net cost of passenger travel:

- 0.6—0.7 €/100 pass.·km
with the costs paid back during 3—4 years.





Super-heavy monoSTU

Lowest-cost transportation system of the "second level"

Double-track route

(without infrastructure and mono-unibuses):

- from 3.0—4.2 mln. €/km on a plain;
- from 3.8—5.0 mln. €/km in a city or in the mountains.

Most economically efficient transportation system of the "second level"

Energy consumption by a mono-unibus
at the travel speed of 100 km/hour:

- 0.6—0.8 kWt·hour/100 pass.·km;
- 0.15—0.2 litre of fuel/100 pass.·km.

Most environmentally friendly transportation system of the "second level"

Land allocations (without infrastructure):

- 150—200 sq. m/km;
- 0.015—0.02 ha/km.

Most affordable transportation system of the "second level"

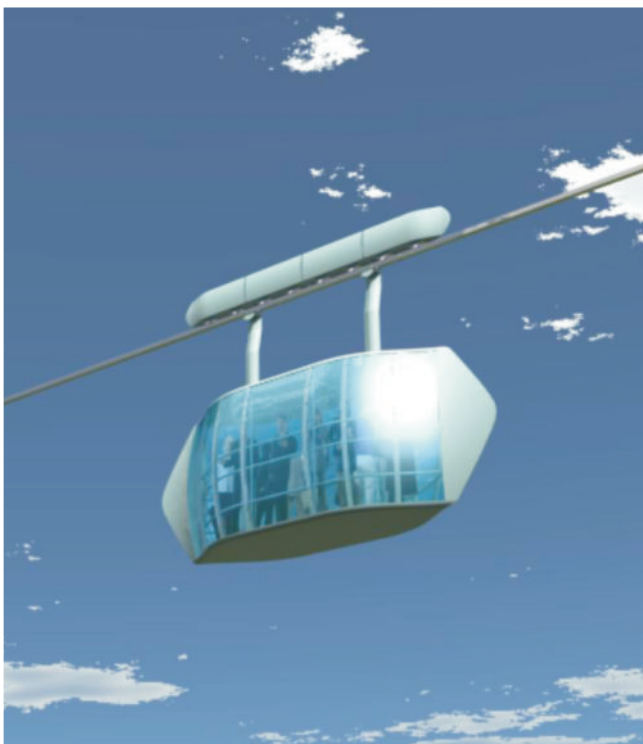
Net cost of passenger travel:

- 0.7—0.8 €/100 pass.·km
with the costs paid back during 3—5 years.

Lowest-cost hanging self-propelled vehicle

The cost of a 40-seat passenger mono-unibus:

- 120,000—150,000 € — serial production;
- 200,000—250,000 € — small-scale production;
- 300,000—350,000 € — individual order.





Freight super-heavy monoSTU

Lowest-cost transportation system of the "second level"

Double-track route (without infrastructure and mono-unibuses):

- from 0.8—1.2 mln. €/km on a plain;
- from 1.2—1.6 mln. €/km in the mountains.

Most economically efficient transportation system of the "second level"

Energy consumption by a mono-unibus at the travel speed of 100 km/hour:

- 0.6—0.9 kWt·hour/100 ton·km;
- 0.2—0.3 litre of fuel/100 ton·km.

Most environmentally friendly transportation system of the "second level"

Land allocations for monoSTU route (without infrastructure):

- 80—100 sq. m/km;
- 0.008—0.01 ha/km.

Most affordable transportation system of the "second level"

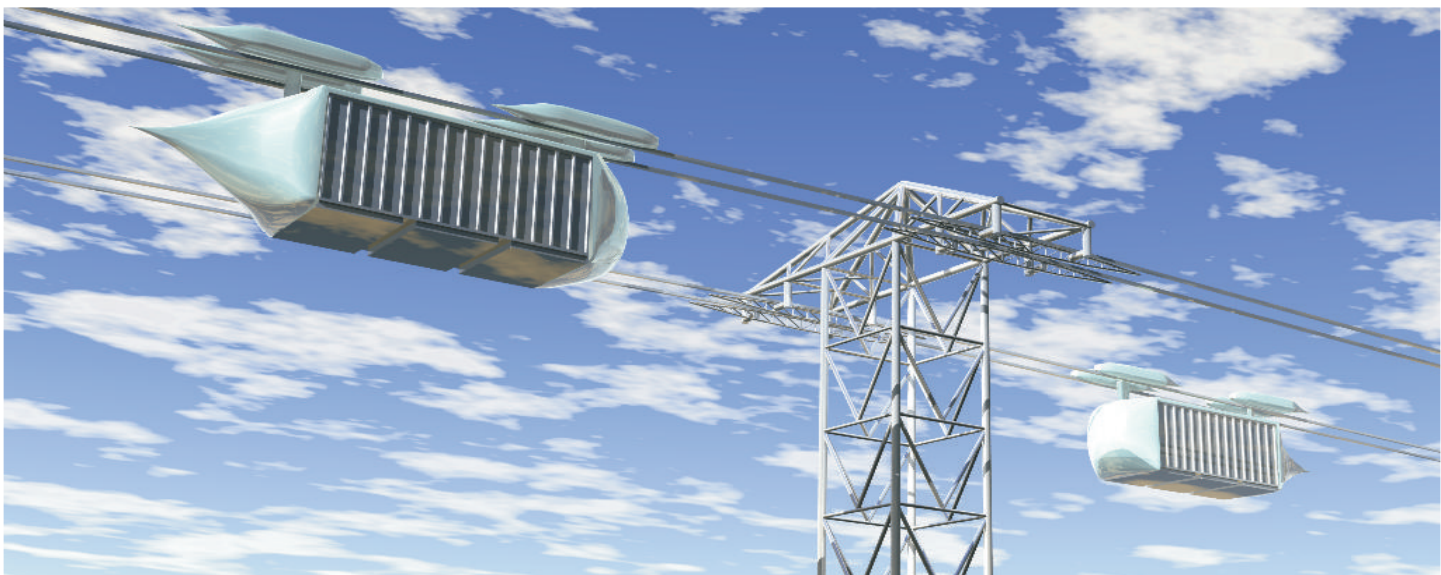
Net cost of freight transportation:

- 0.5—1.0 €/100 ton·km with the costs paid back during 2—3 years.

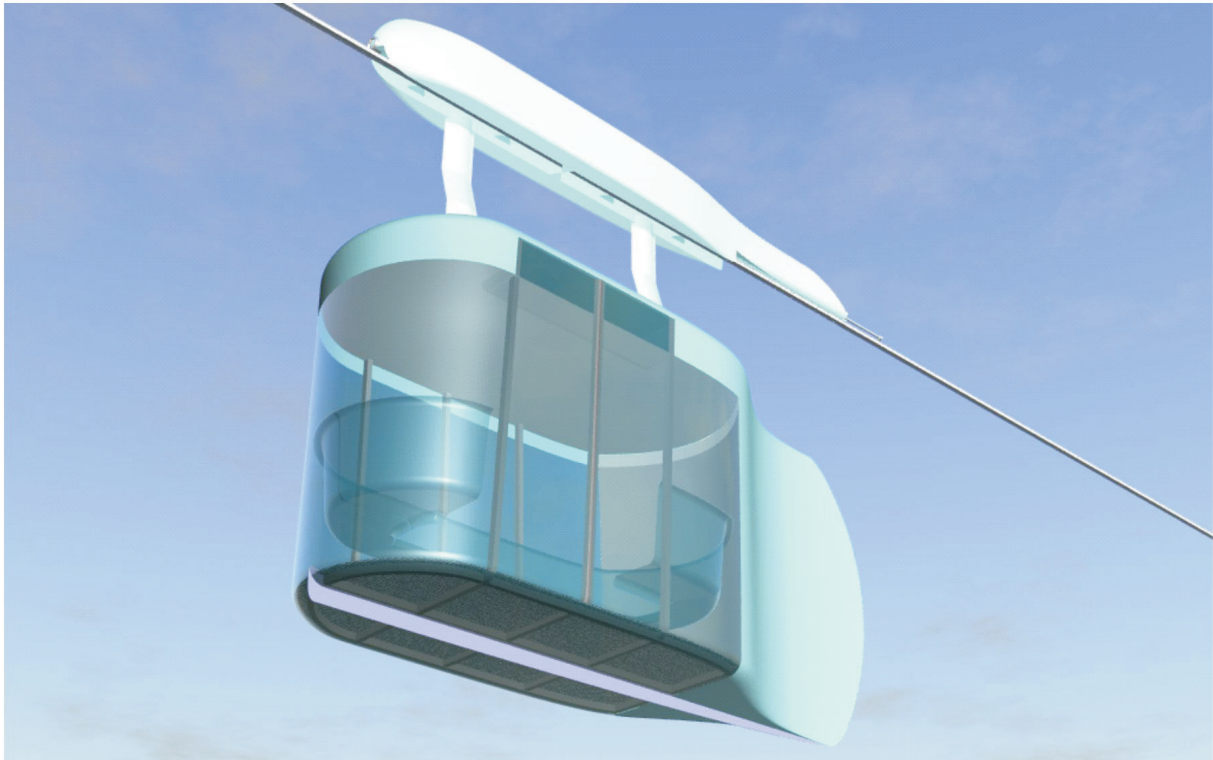
Lowest-cost hanging self-propelled vehicle

The cost of a 10-ton freight mono-unibus:

- 20,000—30,000 € — serial production;
- 40,000—60,000 € — small-scale production;
- 70,000—100,000 € — single-unit production.



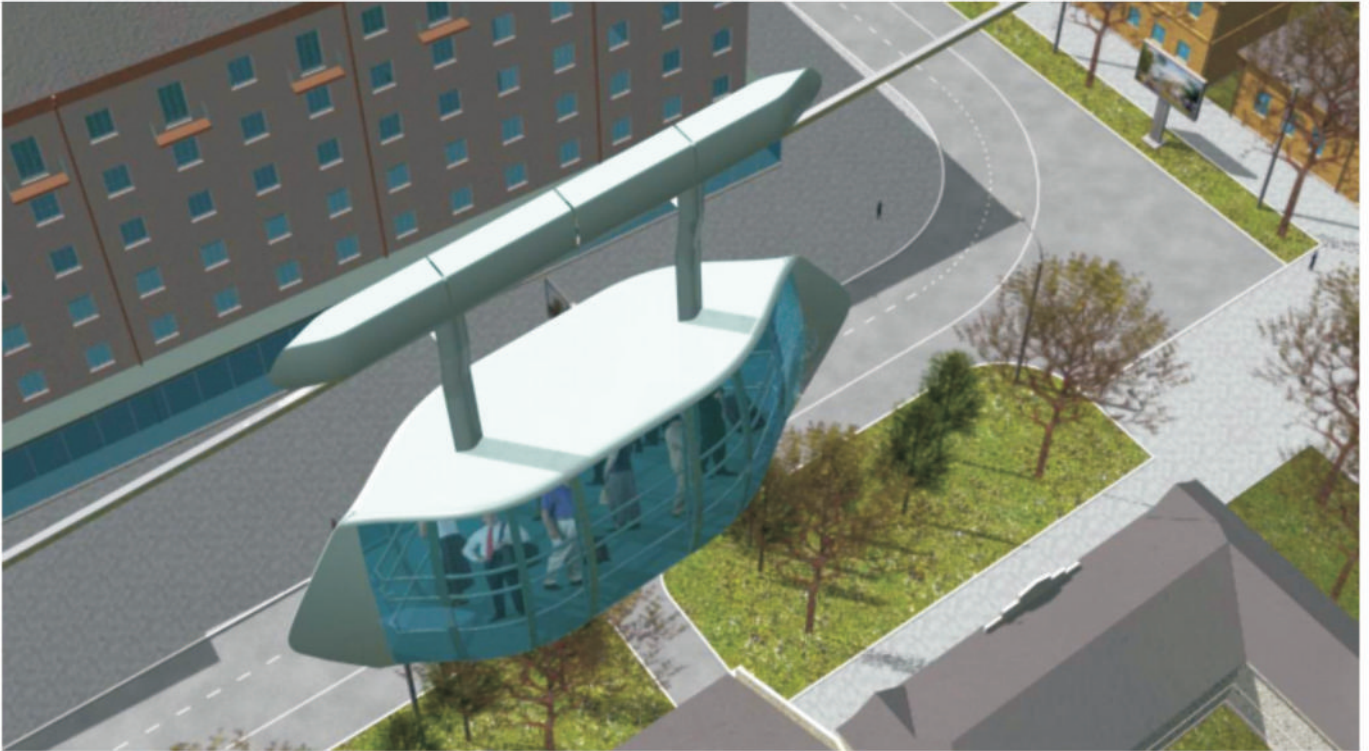
Mono-unibus U-371PE



Key technical characteristics

Purpose	city passenger
Wheel formula	4×4
Overall dimensions, mm:	
- length (with butt-joint connections)	5800
- width	1700
- total height	4500
- height of a hanging cabin	2400
Mass, kg:	
- equipped	1600
- full (10 passengers)	2350
Passenger carrying capacity, passengers:	
- comfortable	10
- maximal	15
Maximal travel speed, km/hour:	
- for spans of 2 km	110
- for spans of 1 km	75
Sanitary and hygienic block	no
Climate control inside the mono-unibus	yes
Electric drive power (average at the span), kWt:	
- for spans of 2 km	5.5
- for spans of 1 km	2.2
Average fuel consumption at the travel speed of 75 km/hour (on conversion of electric energy on gasoline and taking into account energy consumption for conditioning and lighting of a saloon), kg:	
- per 1 hour	1.2
- per 100 km of running	1.6
- per 100 pass.×km	0.14

Mono-unibus U-391PE



Key technical characteristics

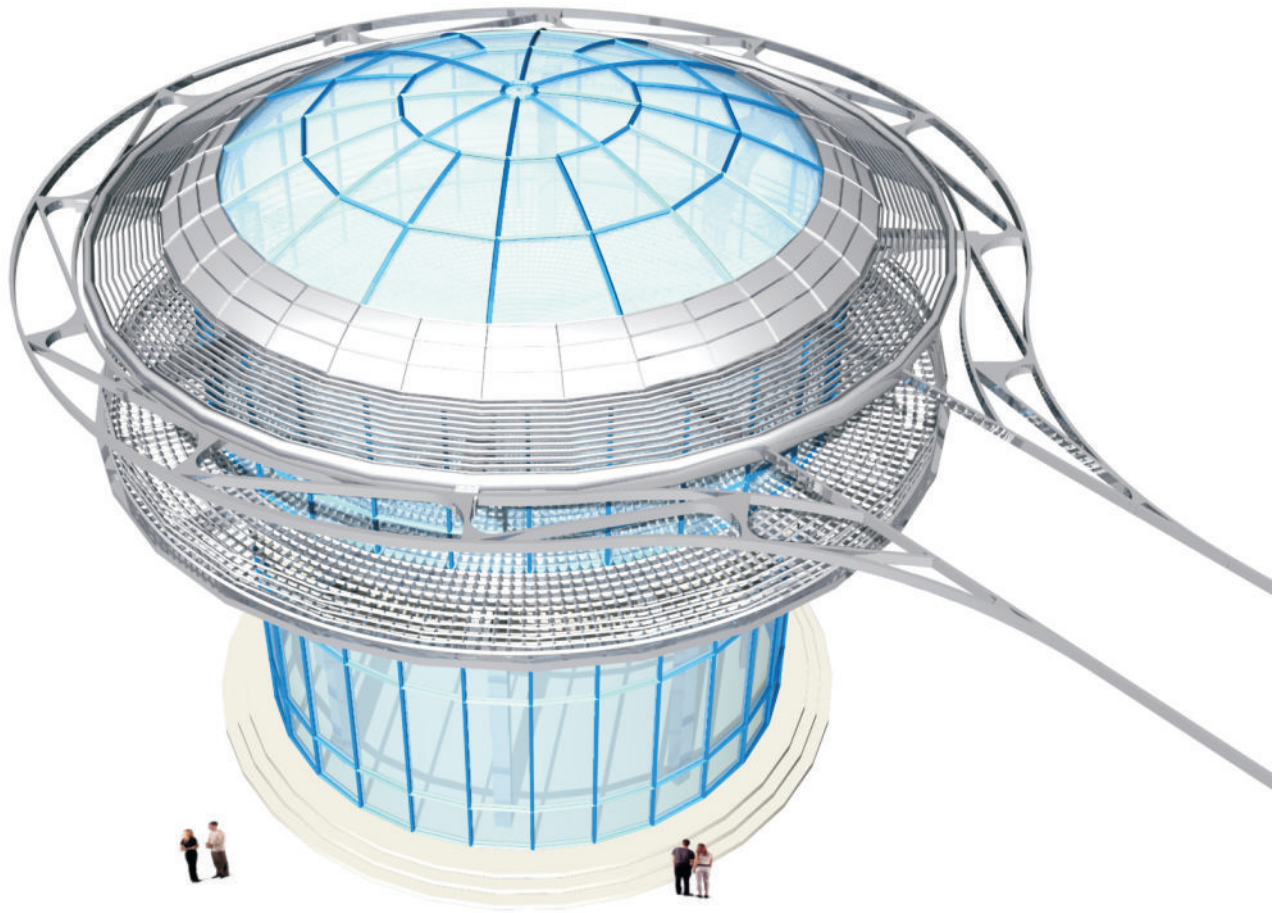
Purpose	city passenger
Wheel formula	4×4
Overall dimensions, mm:	
- length (with butt-joint connections)	7000
- width	2100
- total height	4200
- height of a hanging cabin	2100
Mass, kg:	
- equipped	2500
- full (40 passengers)	5500
Passenger carrying capacity, passengers:	
- comfortable	40
- maximal	60
Maximal travel speed, km/hour:	
- for spans of 2 km	110
- for spans of 1 km	75
Sanitary and hygienic block	no
Climate control inside the mono-unibus	yes
Electric drive power (average at the span), kWt:	
- for spans of 2 km	7
- for spans of 1 km	3
Average fuel consumption at the travel speed of 75 km/hour (on conversion of electric energy on gasoline and taking into account energy consumption for conditioning and lighting of a saloon), kg:	
- per 1 hour	2
- per 100 km of running	2.7
- per 100 pass.×km	0.054

Suspended unibus U-393PE



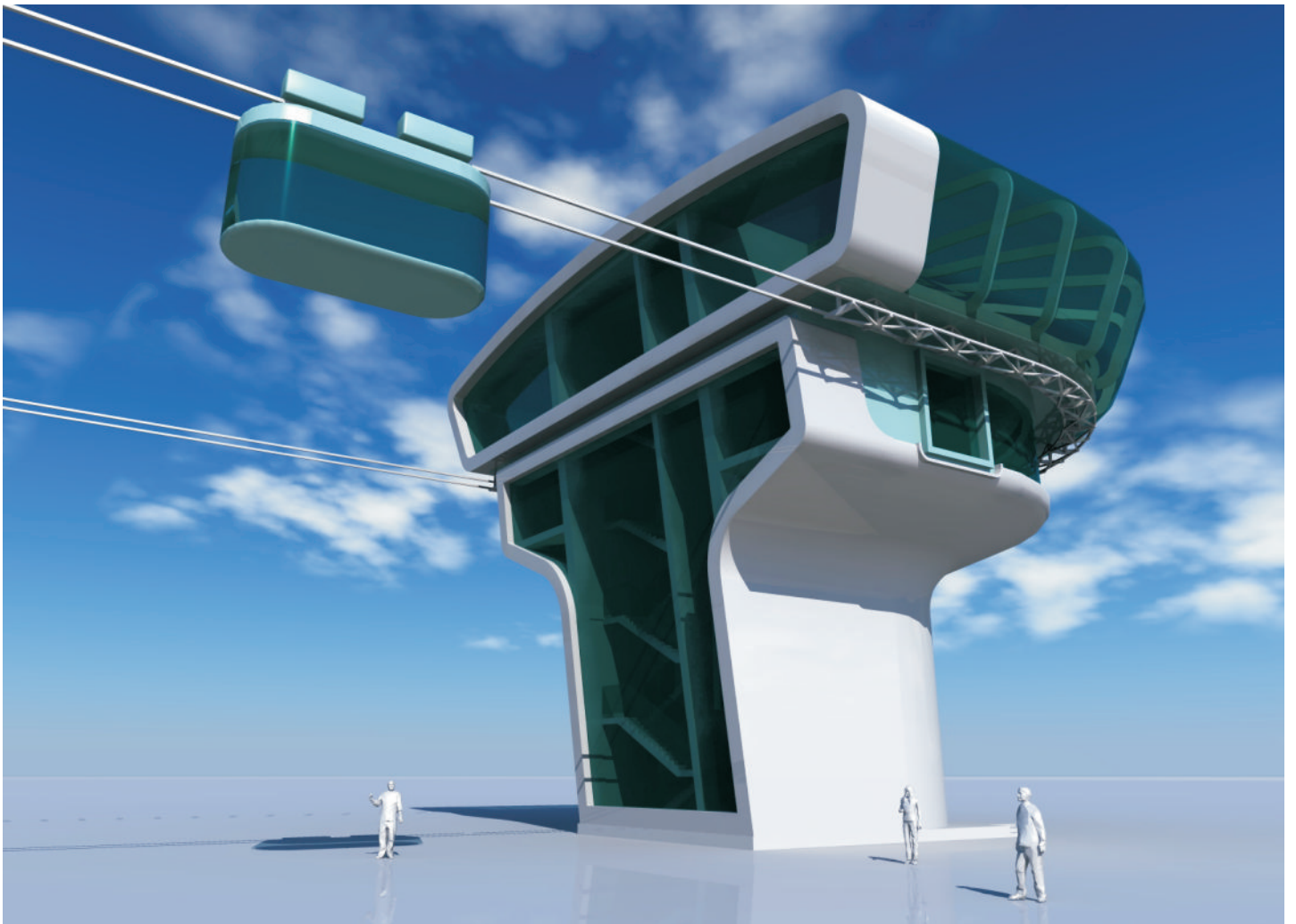
Key technical characteristics

Purpose	city passenger
Wheel formula	4×4
Overall dimensions, mm:	
- length (with butt-joint connections)	5500
- width	2000
- total height	3400
- height of a hanging cabin	2500
Mass, kg:	
- equipped	2100
- full (20 passengers)	3600
Passenger carrying capacity, passengers:	
- comfortable	20
- maximal	30
Maximal travel speed, km/hour:	
- for spans of 2 km	110
- for spans of 1 km	75
Sanitary and hygienic block	no
Climate control inside the mono-unibus	yes
Electric drive power (average at the span), kWt:	
- for spans of 2 km	5.5
- for spans of 1 km	2.2
Average fuel consumption at the travel speed of 75 km/hour (on conversion of electric energy on gasoline and taking into account energy consumption for conditioning and lighting of a saloon), kg:	
- per 1 hour	1.8
- per 100 km of running	2.4
- per 100 pass.×km	0.12

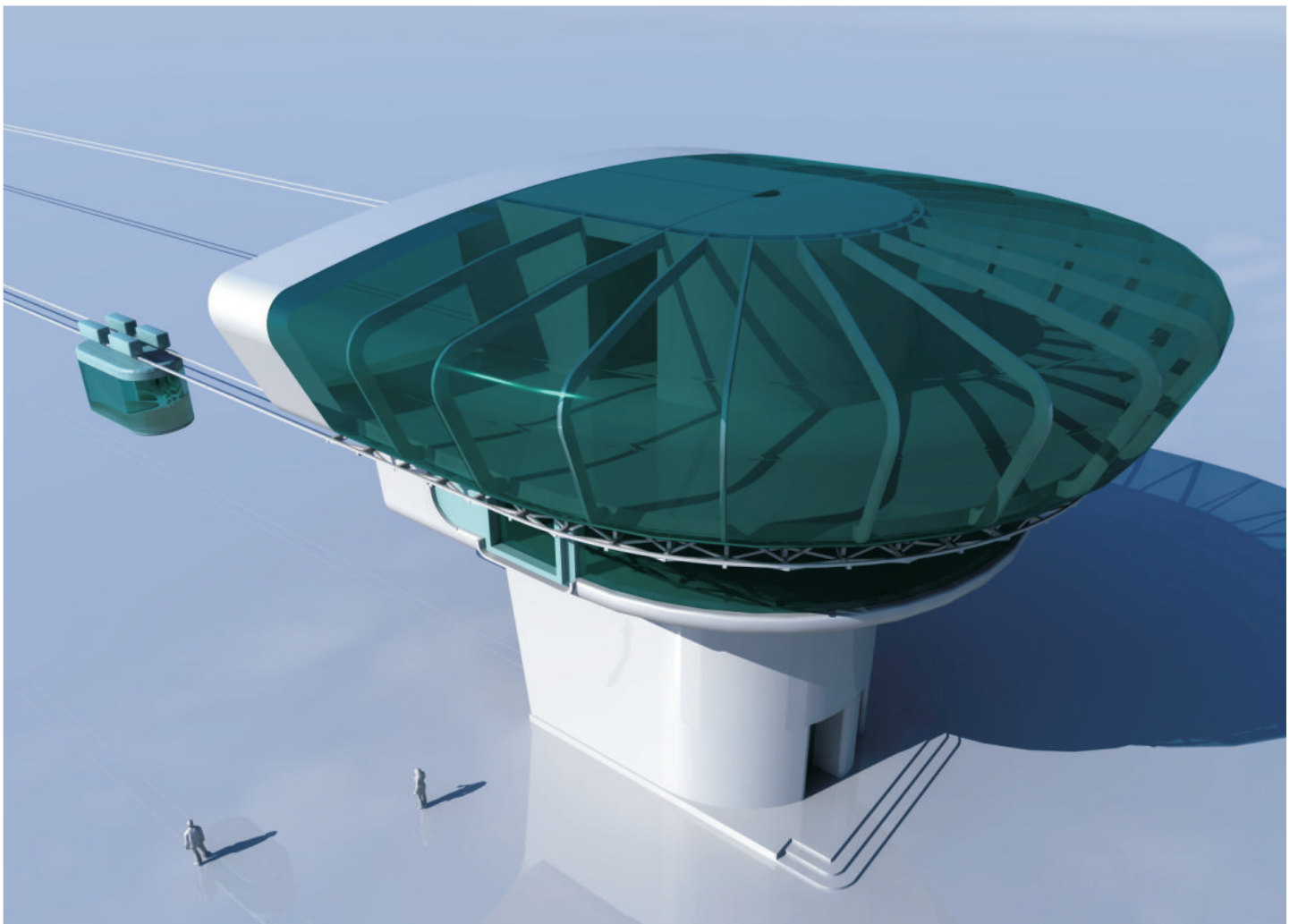


Terminal station of a monoSTU



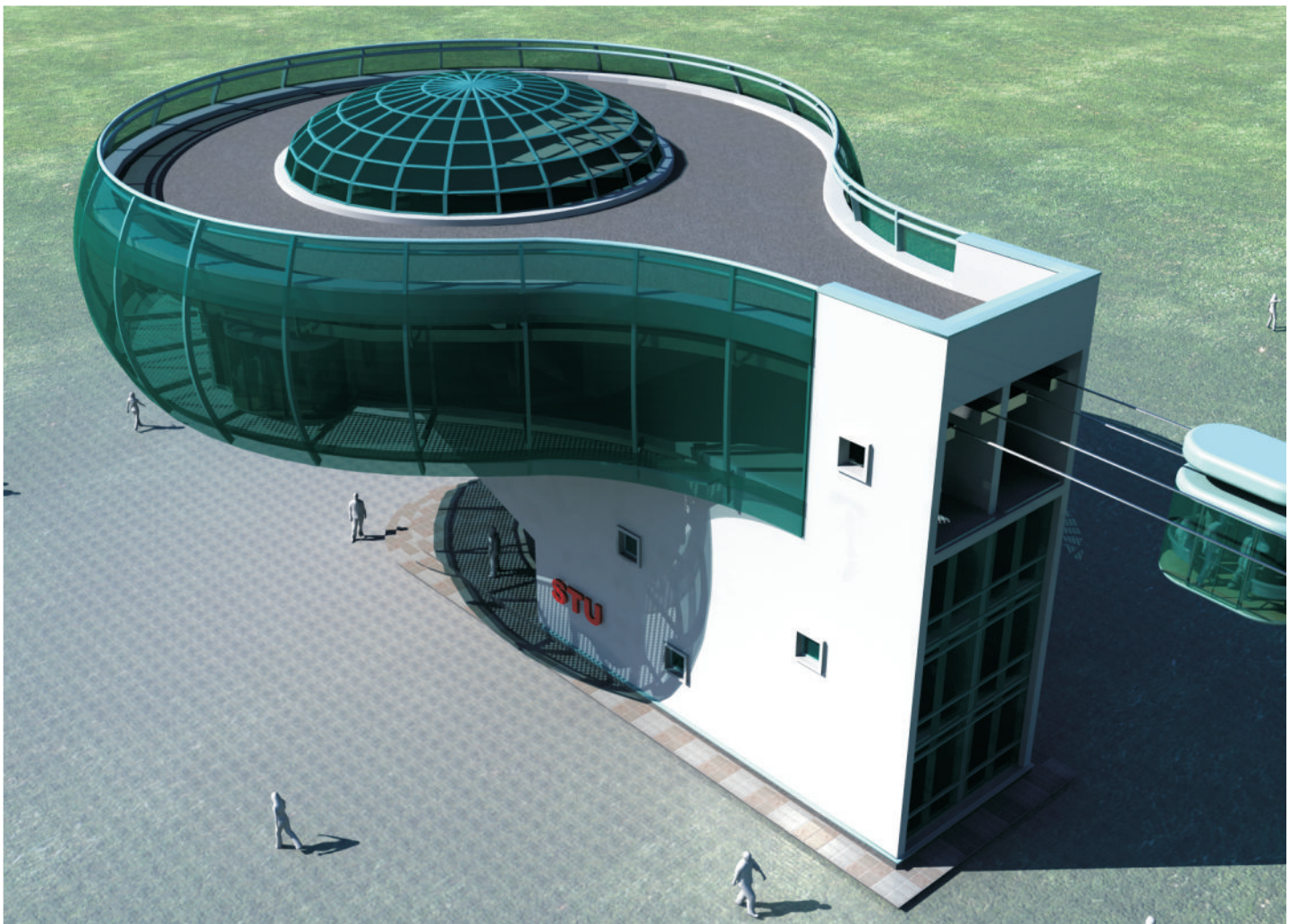


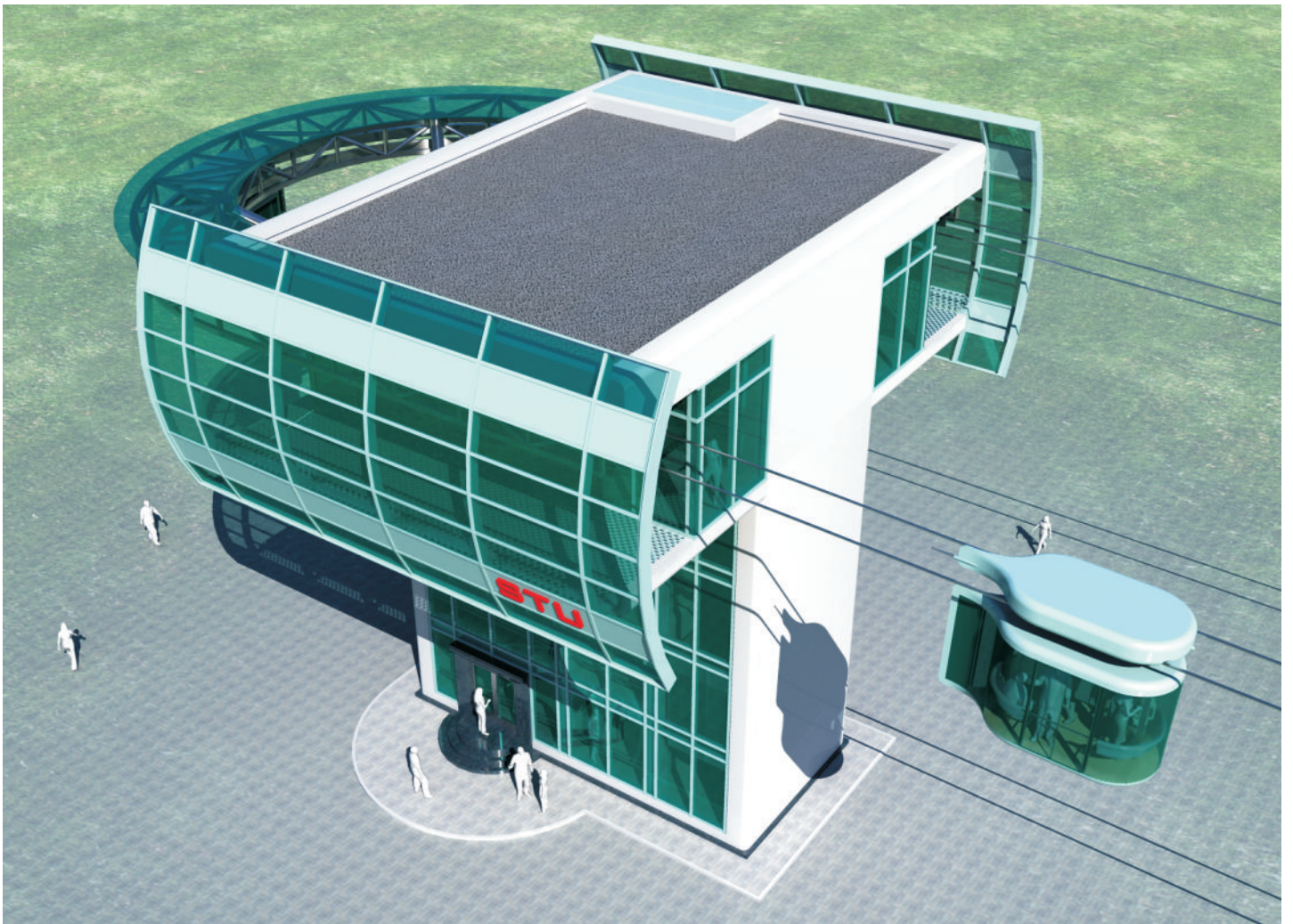
Terminal station of a monoSTU





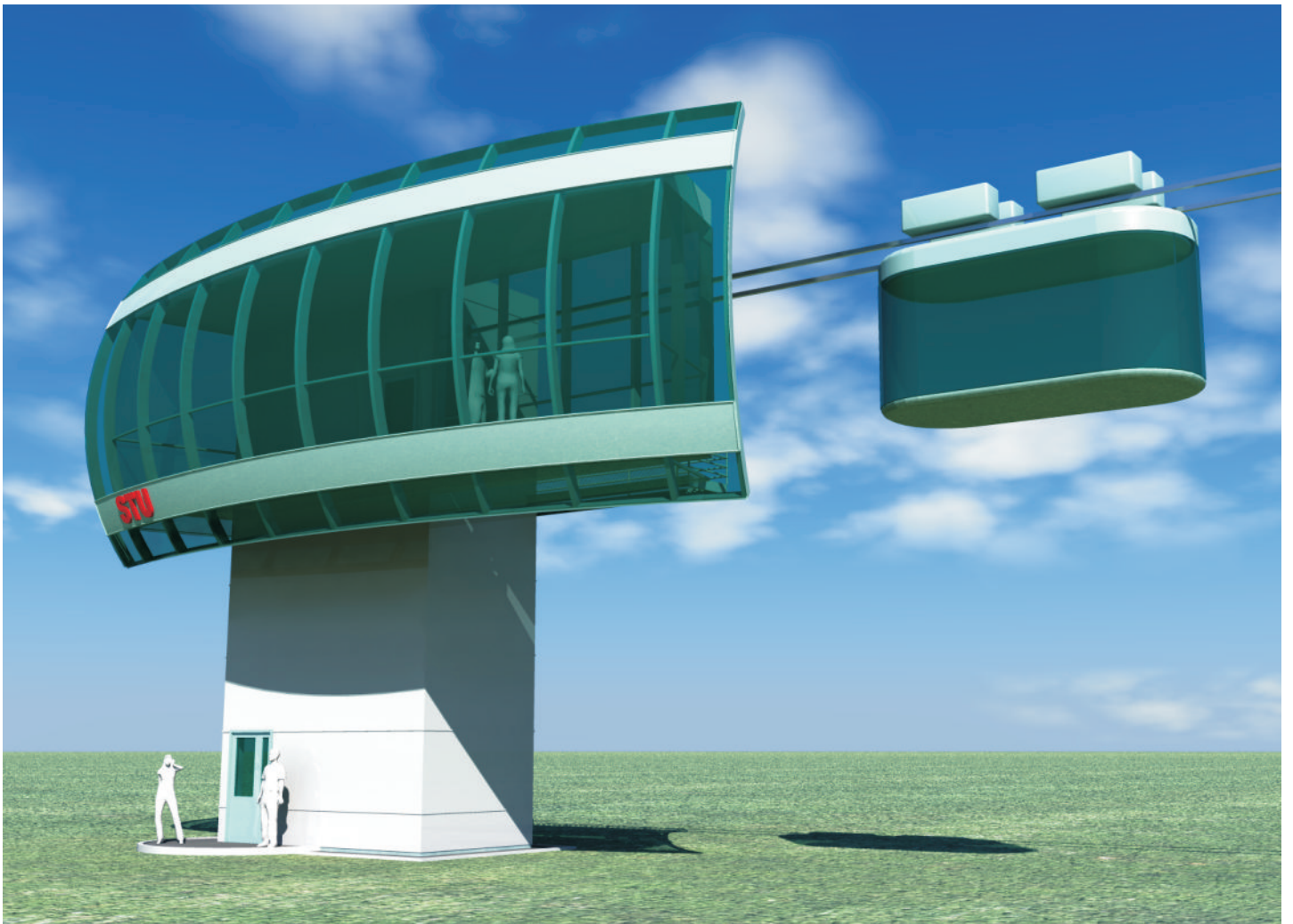
Terminal station of a monoSTU



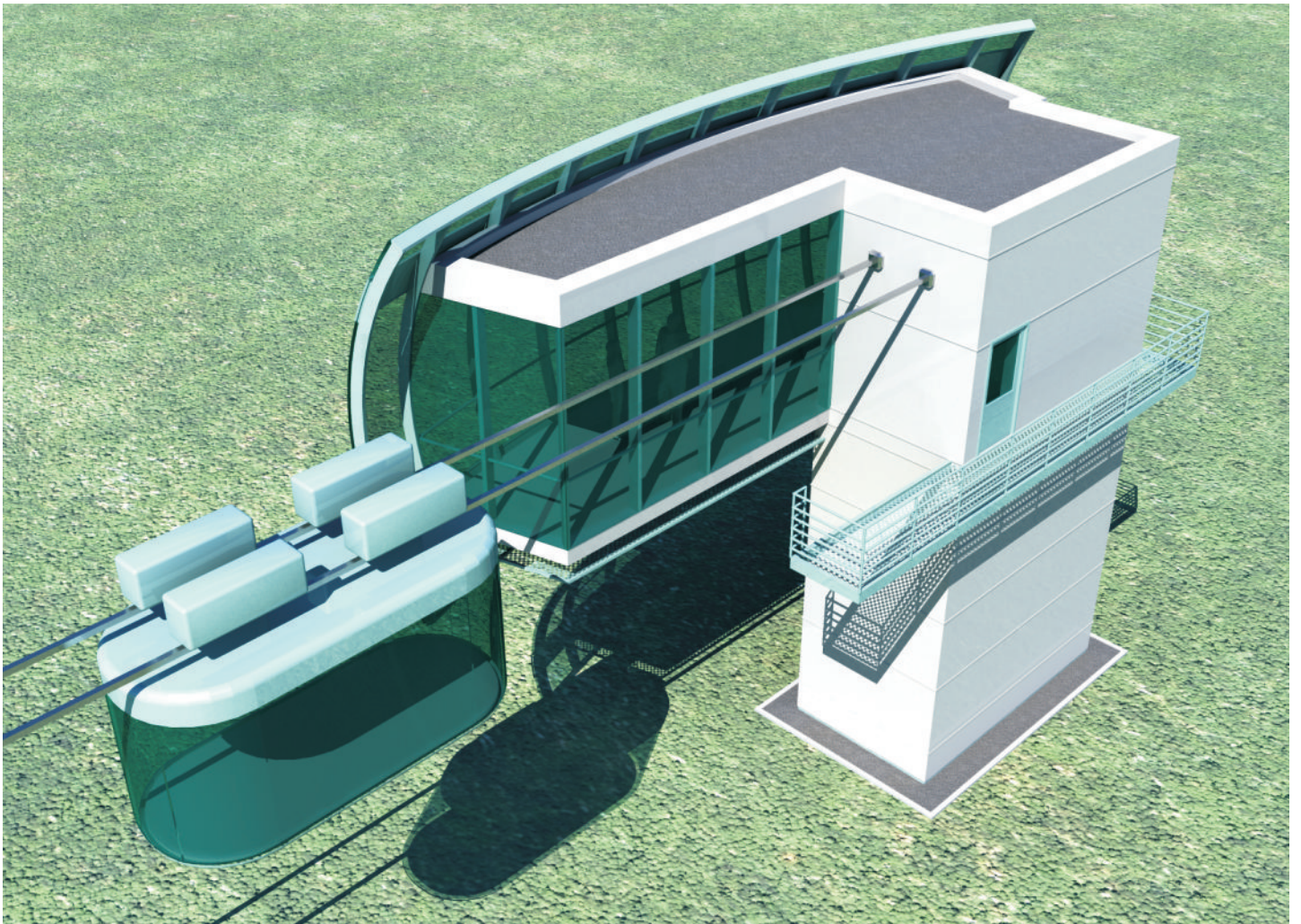


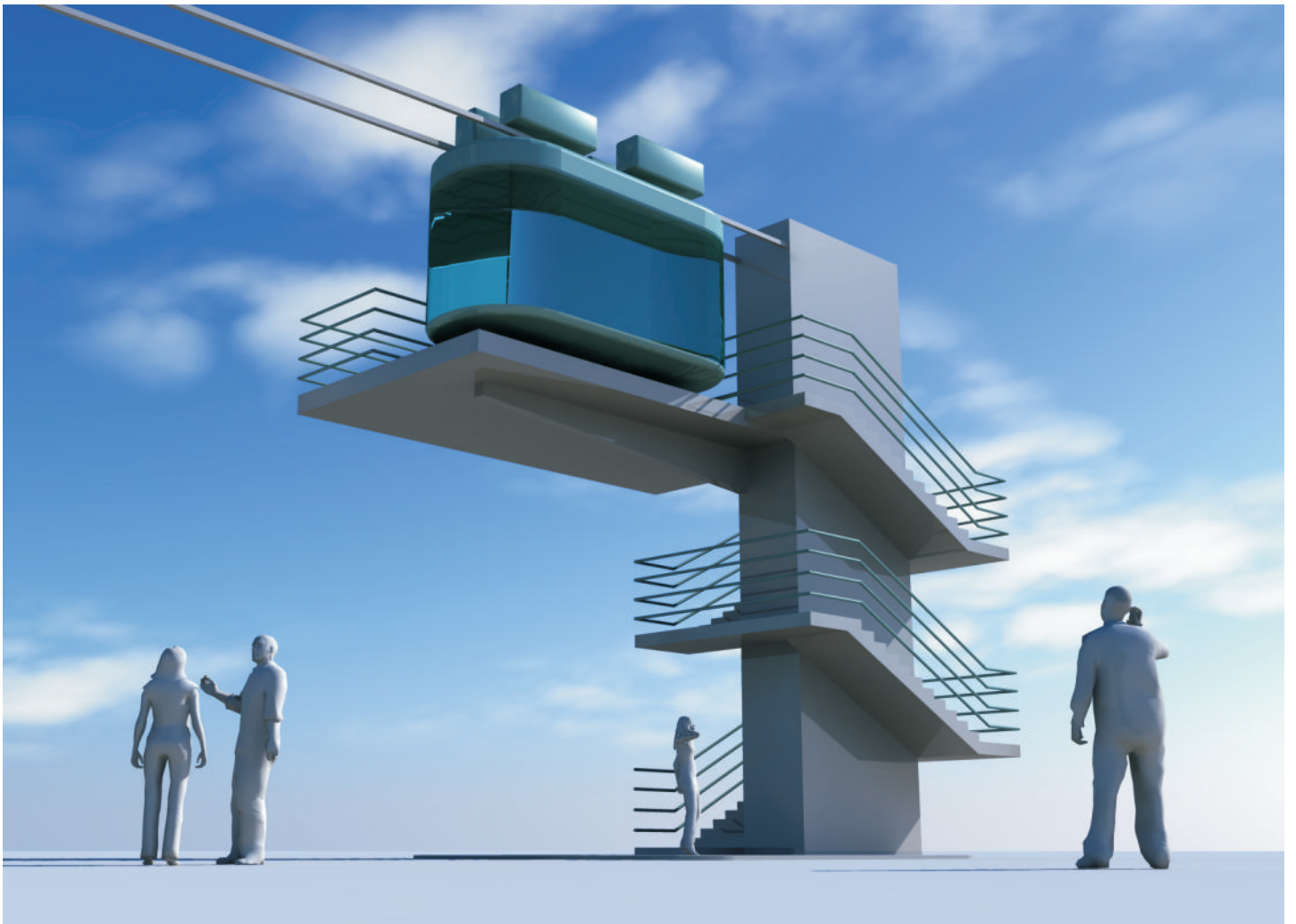
Terminal station of a monoSTU



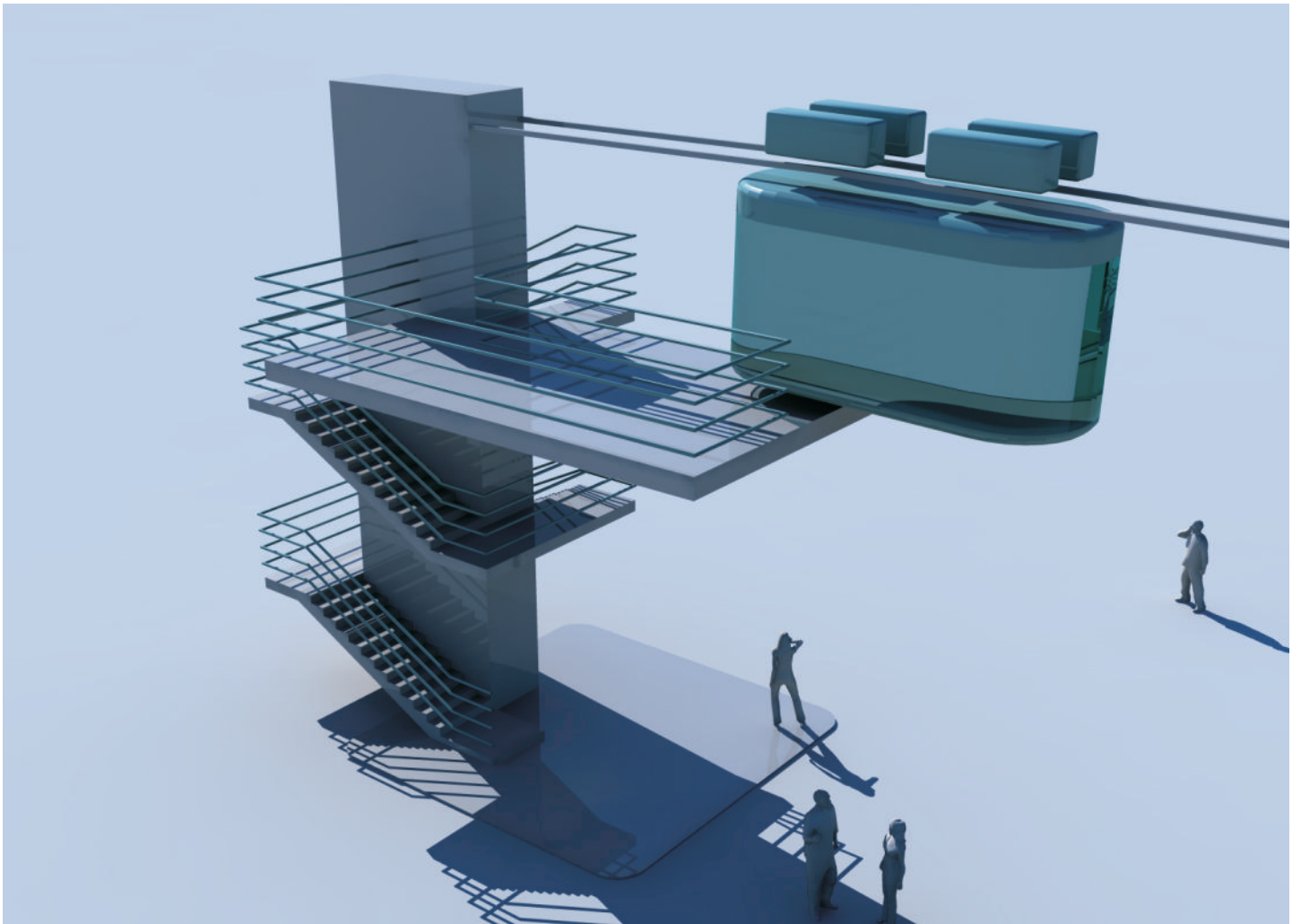


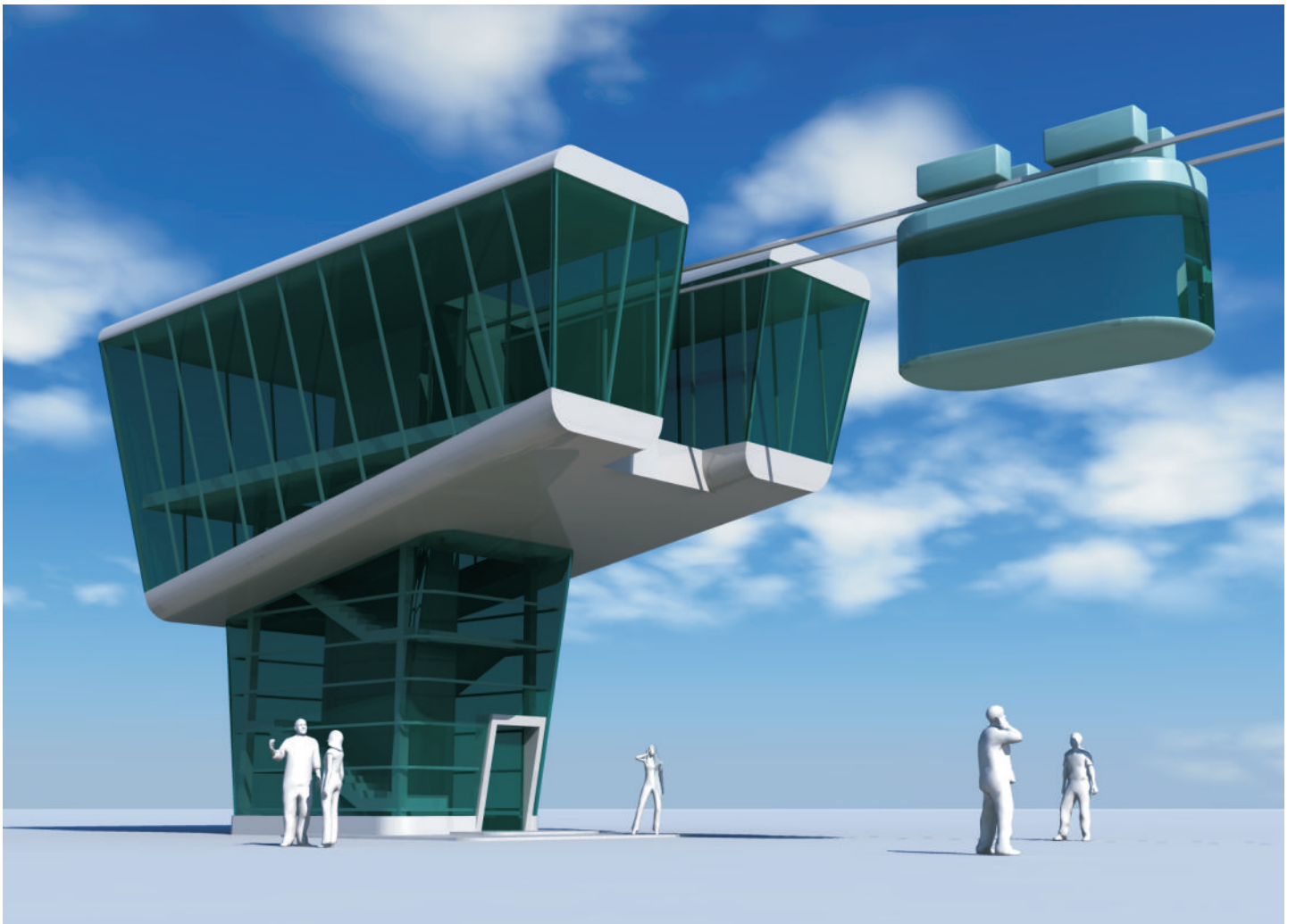
Terminal station of a monoSTU



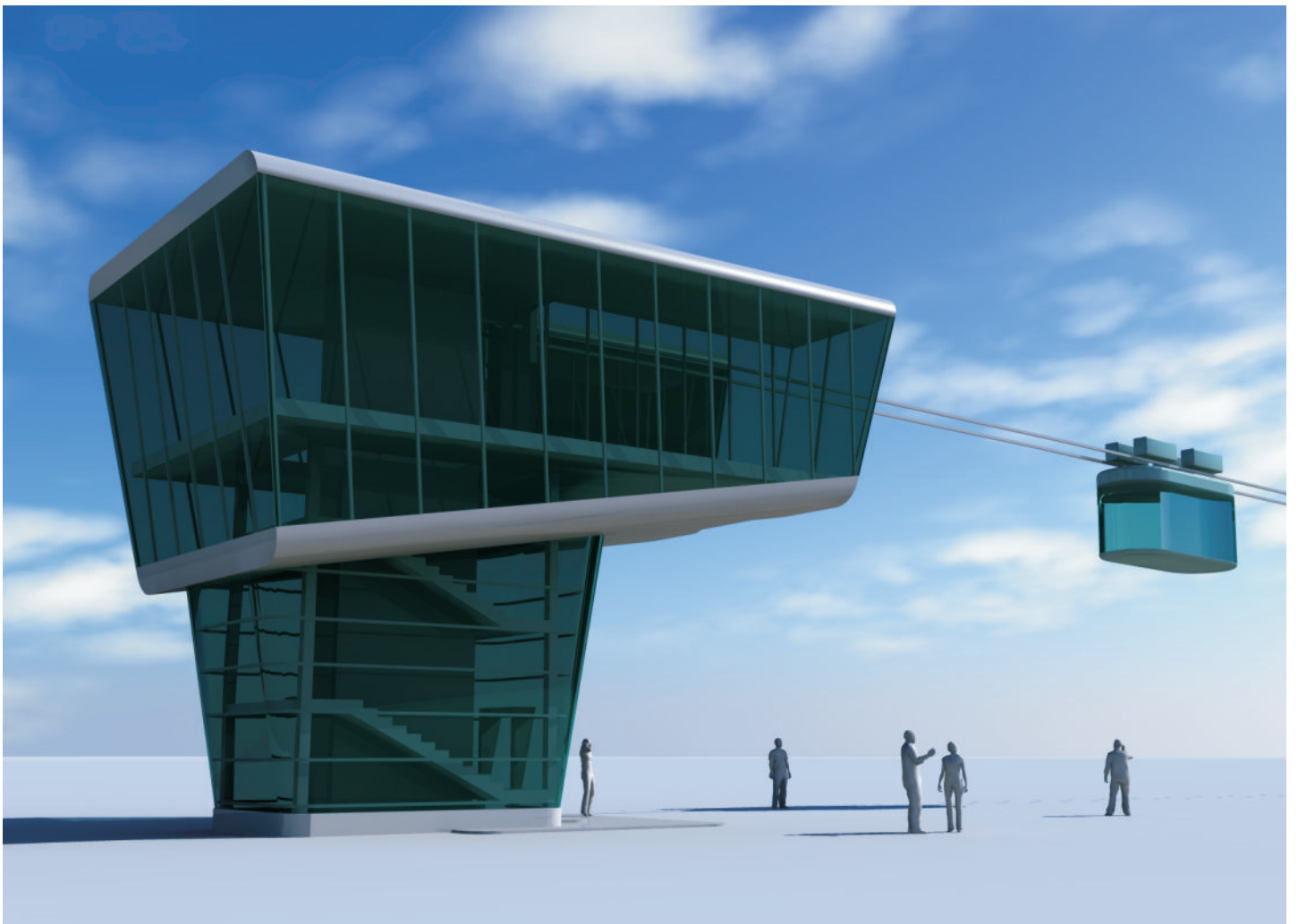


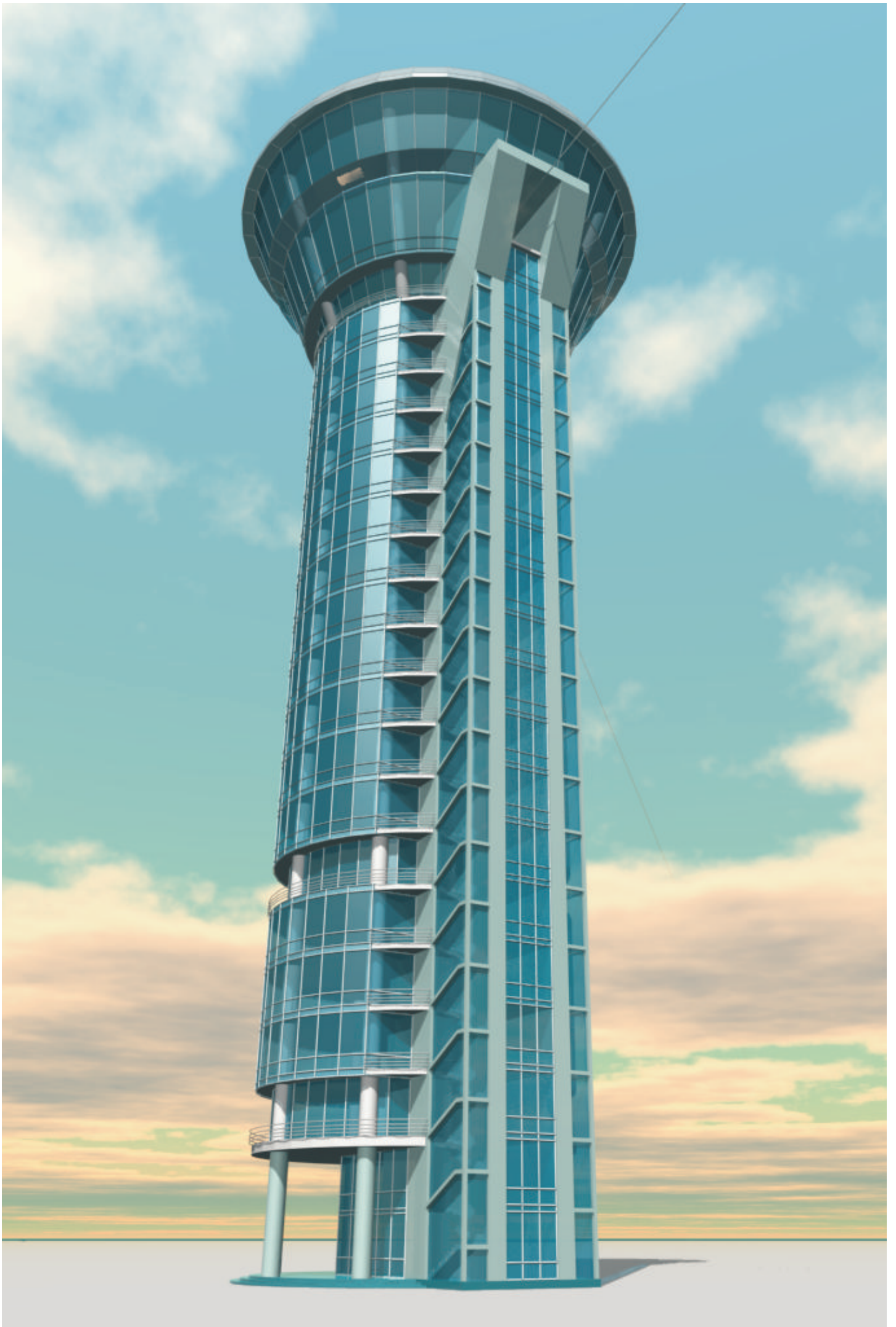
Terminal station of a monoSTU

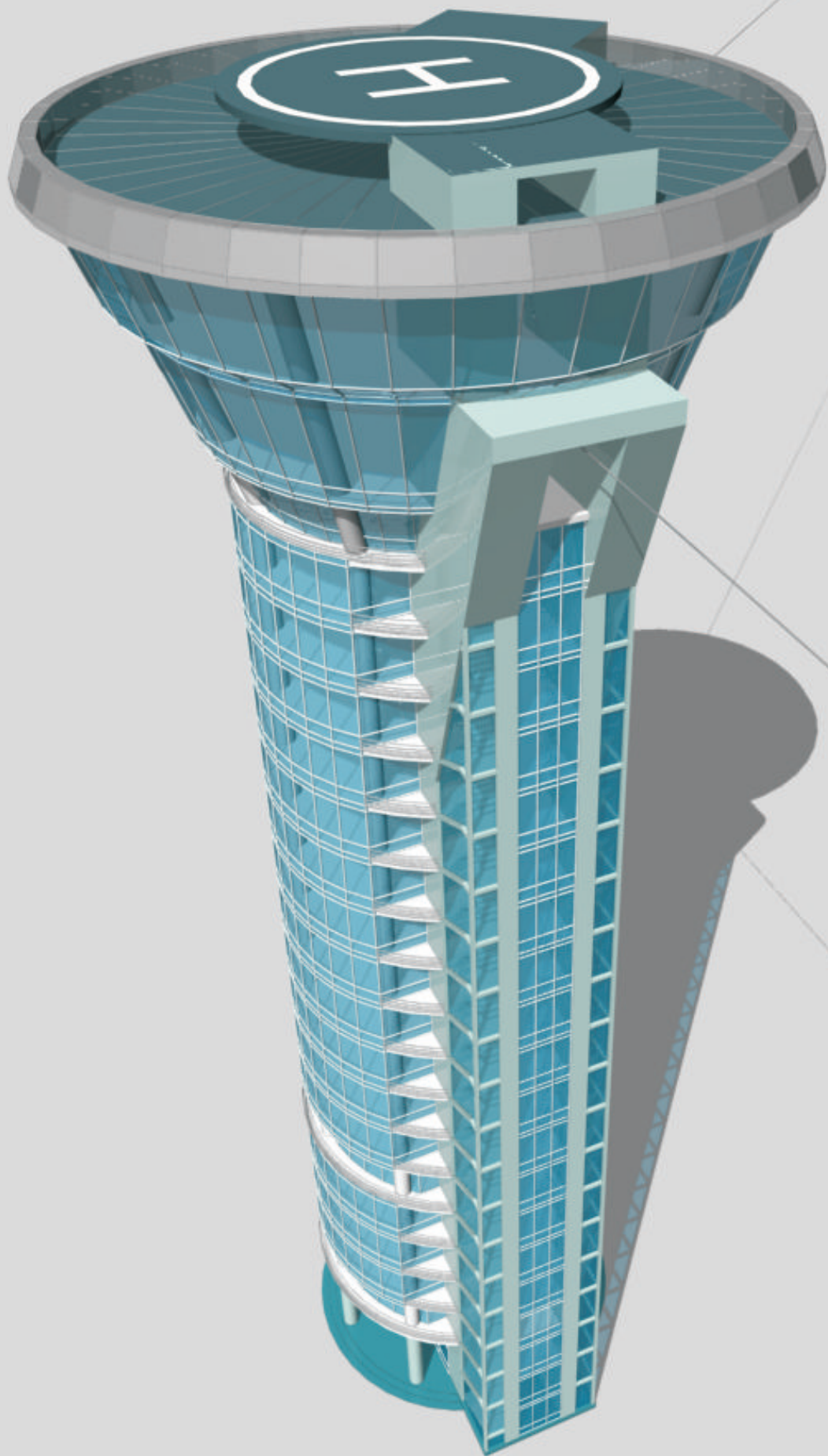




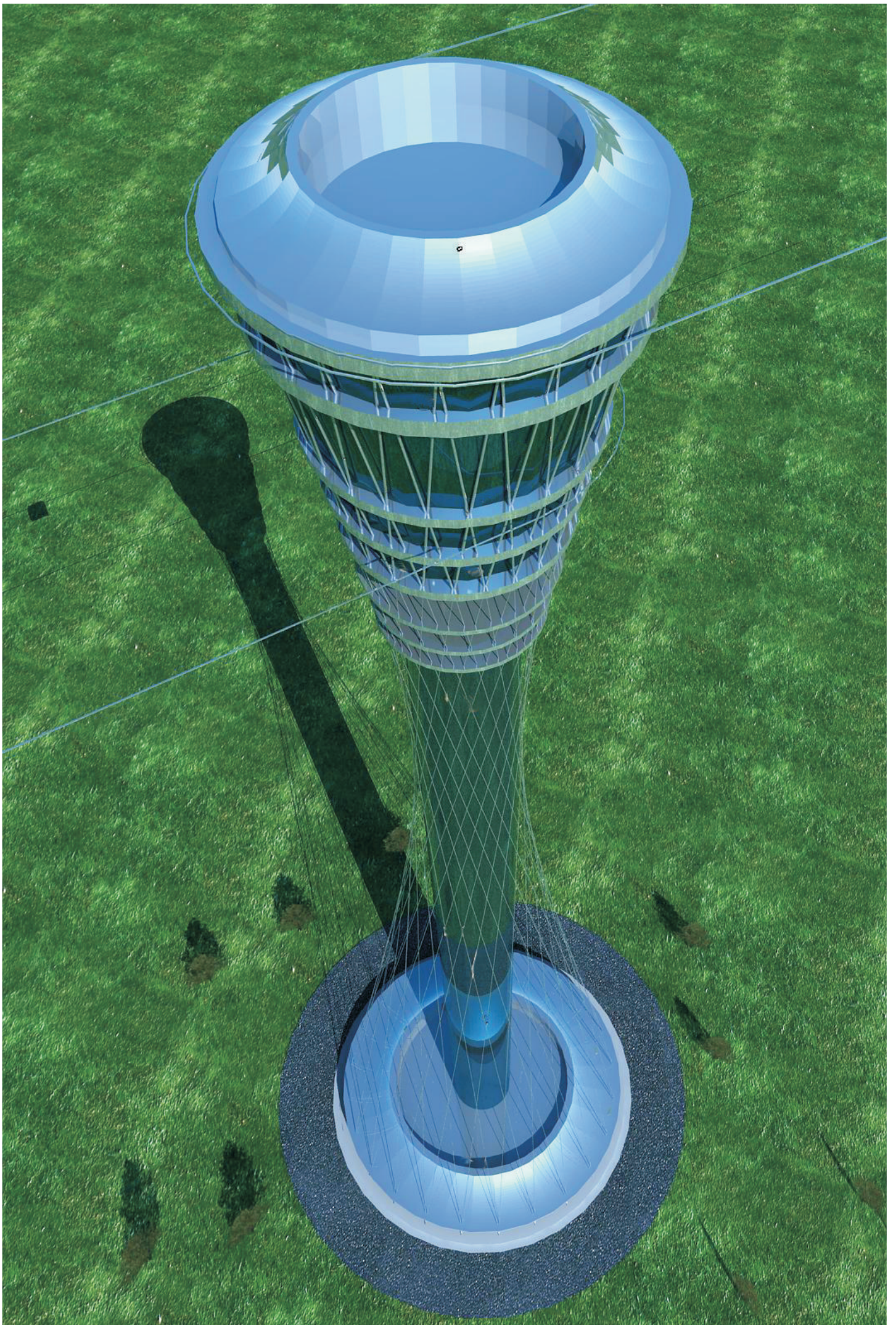
Terminal station of a monoSTU















Operational monoSTU models

