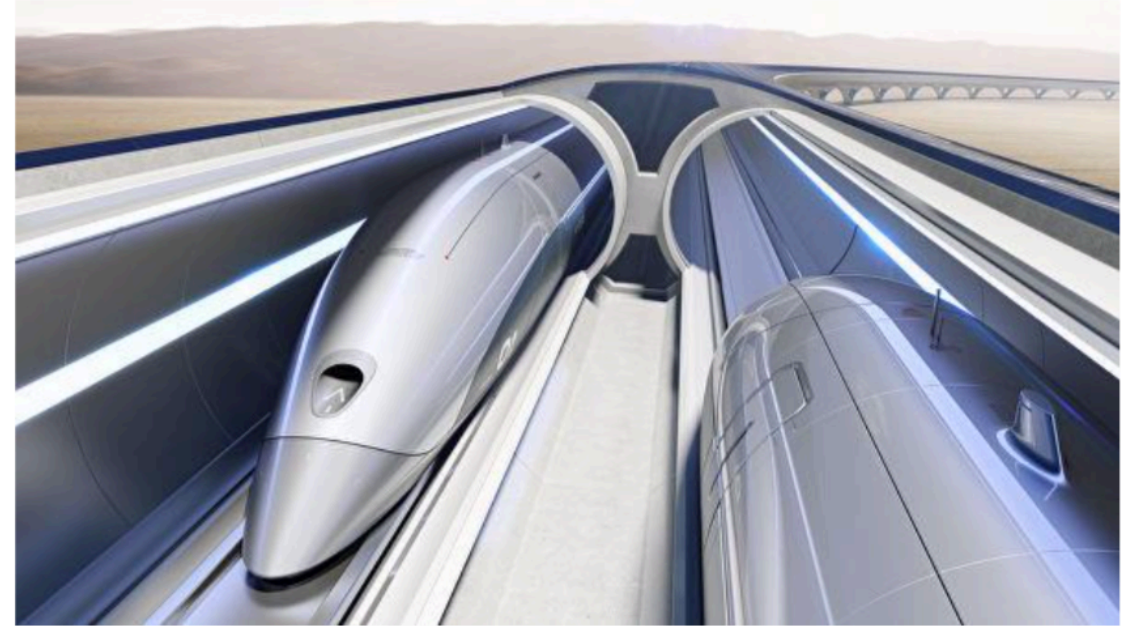


## Case study

Your team has received a proposal to develop a design for a group of Russian investors who want to build **Hyperloop in Russia**.

We need to substantiate whether this project is feasible.

**HYPERLOOP**



### Requirements

- No more than 6 slides besides the title slide and team introduction
- All additional analytics and calculations can be backed up in the presentation
- You will have 10 min for presentation and 10 min for Q&A

# Hyperloop in Russia

Your team of consultants has received a proposal to develop a design for a group of Russian investors who want to build Hyperloop in Russia. They already have experience of large construction projects, as well as good connections with both Elon Musk and the Russian Ministry of Transport. However, they have never dealt with Hyperloop. The analytics department has managed to collect some data that may be useful to you, but please note that this is not all the necessary information: you will have to find something yourself. Moreover, to solve the case, you can use other sources if you find them more accurate.

We need to substantiate whether this project is feasible, and if so, then detail the following:

- Optimum business model, organizational setup
- Location of Hyperloop, points it connects, goals it achieves. Investors expect analysis of passenger traffic, cargo traffic, population and purchasing power
- Indicate when the project will pay off and how much money it will generate. Provide a financial model to support feasibility
- Specify those we need to solicit to support this project
- Identify key project risks and barriers to sustainable growth

## Requirements

- No more than 6 slides besides the title slide and team introduction
- All additional analytics and calculations can be backed up in the presentation
- Investors expect the most down-to-earth estimate and are mainly focused on returning investment rather than developing the transport system of Russia as a whole

# Average Cost of Construction in Russia



- Modern roads ~ \$7,900,000 per km
  - Rapid transit railways ~ \$20,078,000 per km
  - High-tech pipelines ~ \$3,120,000 per km
- 
- The estimated construction cost of Hyperloop varies from \$12,000,000 to \$24,000,000 per km depending on the country and specifics of construction

# Population of Largest Russian Cities, 2018 yr.

<b>City</b>	<b>Population, (000 people)</b>	<b>City</b>	<b>Population, (000 people)</b>
Moscow	12,380	Krasnodar	881
St. Petersburg	5,281	Saratov	845
Novosibirsk	1,602	Tyumen	744
Yekaterinburg	1,455	Togliatti	710
Nizhny Novgorod	1,261	Izhevsk	646
Kazan	1 231	Barnaul	633
Chelyabinsk	1,198	Ulyanovsk	624
Omsk	1,178	Irkutsk	623
Samara	1,169	Khabarovsk	616
Rostov-on-Don	1,125	Yaroslavl	608
Ufa	1,115	Vladivostok	606
Krasnoyarsk	1,082	Makhachkala	592
Perm	1,048	Tomsk	572
Voronezh	1,039	Orenburg	564
Volgograd	1,015	Kemerovo	556

# Top-20 Air Routes in Russia, 2013–2017

Route	2017		2016		2015		2014		2013	
	Rank	Passengers carried	Rank	Passengers carried	Rank	Passengers carried	Rank	Passengers carried	Rank	Passengers carried
Moscow – St. Petersburg	1	3,817,210	1	3,738,985	1	3,377,686	1	2,954,107	1	2,565,285
Moscow – Sochi	2	3,433,360	3	2,689,601	2	1,957,566	3	1,446,471	3	1,364,375
Moscow – Simferopol	3	3,380,552	2	3,349,659	3	1,932,718	–	(N/A)	–	(N/A)
Krasnodar – Moscow	4	1,933,836	4	1,884,147	4	1,830,166	2	1,657,890	2	1,625,748
Yekaterinburg – Moscow	5	1,696,791	5	1,647,361	5	1,467,697	4	1,383,975	4	1,277,182
Moscow – Rostov-on-Don	6	1,374,889	7	1,178,950	7	1,168,270	6	1,071,096	6	900,738
Mineralnye Vody – Moscow	7	1,291,852	6	1,266,485	6	1,224,968	7	873,903	7	822,822
Moscow – Samara	8	1,193,439	10	1,036,195	9	961,949	8	858,182	8	790,302
Kaliningrad – Moscow	9	1,114,633	11	1,014,053	11	853,969	11	710,474	12	632,382
Moscow – Novosibirsk	10	1,112,677	8	1,119,777	8	1,157,705	5	1,088,634	5	1,051,862
Moscow – Ufa	11	1,103,045	9	1,083,810	10	940,046	9	817,171	9	749,583
Kazan – Moscow	12	991,767	12	834,679	13	762,196	12	701,870	11	636,229
Anapa – Moscow	13	953,447	13	811,969	17	649,330	–	(N/A)	–	(N/A)
Moscow – Chelyabinsk	14	889,016	15	790,239	12	796,269	14	673,947	14	575,114
Moscow – Perm	15	779,336	14	802,840	16	668,155	16	601,095	16	549,630
Makhachkala – Moscow	16	728,287	19	623,766	–	(N/A)	20	494,195	–	(N/A)
Moscow – Tyumen	17	713,839	18	652,538	–	(N/A)	18	543,305	19	499,118
Krasnoyarsk – Moscow	18	712,000	17	696,143	14	742,830	10	733,331	10	697,795
Volgograd – Moscow	19	691,880	16	719,128	–	(N/A)	–	(N/A)	20	397,330
Irkutsk – Moscow	20	594,106	–	(N/A)	20	572,269	17	549,762	17	529,863

# Wages in the Regions of Russia, 2017 yr.

Region of Russia	Average per capita income, rubles per month	Median (Me), rubles per month	Region of Russia	Average per capita income, rubles per month	Median (Me), rubles per month
1 Nenets Autonomous District	71,072.10	51,988.00	18 Perm Krai	32,692.20	23,883.50
2 Yamalo-Nenets Autonomous District	63,035.90	46,687.20	19 Arkhangelsk Region	32,407.70	25,815.80
3 Moscow	59,567.00	43,043.20	20 Republic of Tatarstan	31,391.30	23,285.80
4 Chukotka Autonomous District	57,333.40	43,322.90	21 Krasnodar Krai	31,375.90	23,342.70
5 Sakhalin Region	48,852.50	36,534.40	22 Nizhny Novgorod Region	30,849.60	23,352.80
6 Magadan Region	48,734.20	37,763.40	23 Russian Federation	30,448.10	22,729.00
7 Khanty-Mansiysk Autonomous District	44,519.70	33,395.50	24 Voronezh Region	30,141.10	22,534.20
8 Tyumen Region	41,116.50	29,859.10	25 Amur Region	29,703.90	22,952.90
9 St. Petersburg	39,844.70	29,503.90	26 Belgorod Region	27,907.10	21,600.10
10 Kamchatka Krai	39,494.10	31,869.20	27 Republic of Bashkortostan	27,814.50	20,726.50
11 Moscow Region	38,395.90	29,367.60	28 Lipetsk Region	27,629.60	21,411.30
12 Sakha Republic (Yakutia)	37,857.30	28,913.20	29 Yaroslavl Region	27,006.40	20,950.80
13 Khabarovsk Krai	37,677.30	29,388.90	30 Samara Region	26,916.80	20,028.30
14 Murmansk Region	35,952.30	28,801.10	31 Krasnoyarsk Krai	26,853.70	20,513.80
15 Sverdlovsk Region	34,696.40	25,898.30			
16 Primorsky Krai	34,080.70	26,380.30			
17 Komi Republic	33,312.60	25,160.80			