EXOTIX CAPITAL

SUMMA

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TURKEY INDUSTRIALS

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Airport constructor-turned-operator

- **Summa Group is an international construction contractor that is diversifying into the long-term sustainable business of operating airports and running hospitality facilities.** The company is targeting cash-generating internationally high-profile projects that provide hard currency revenue streams. Summa's base in Turkey enables it to leverage experience and skills accumulated in the local construction industry, and it is a geographically convenient location for shipping materials and equipment to the company's many projects in Sub-Saharan Africa (SSA), where Turkey has a great deal of political capital and a broad diplomatic presence.
- **A history of delivering a wide range of construction projects.** Summa's portfolio of completed projects includes commercial and residential property, business centres, offices and shopping malls, hospitals, hotels and industrial complexes, and various infrastructure projects (such as roads and airports). The company has been ranked in the top 250 (#226 in 2018) international construction companies by Engineering News-Record (ENR – a specialist construction industry magazine published in the US) for the past 11 years. Since 1989, Summa has completed 84 construction projects in 12 countries, with a combined value of EUR2.4bn.
- **Current project portfolio is focused on SSA.** The company is recognised as a reliable partner for local authorities in SSA in delivering essential infrastructure projects. In 2019-22, Summa plans to complete EUR1.7bn-worth of projects, including two build-operate-transfer (BOT) airport contracts in Niger and Sudan, accounting for more than half of the projects' value. The size of the airport projects suggests that Summa might seek external funding for part of the investment, structured as project finance. The long-term concession agreements allow the recovery of invested capital and the generation of income through various sources, including an infrastructure development charge per departing international passenger, collected directly through the International Air Transport Association (IATA). In total, Summa could be looking to raise EUR399mn for the two airports. We estimate the new airport concessions could generate operating profits of at least EUR100mn per annum from 2022.
- **Key risks include political instability and weak macro, but not FX.** SSA has historically been prone to political instability, and many countries in the region have experienced crises due to droughts and floods. These factors are unpredictable and could affect passenger movements to and from Niger and Sudan, and, in turn, Summa's airport operations. However, the company's contracts are signed in hard currency (US dollars or euros) and, therefore, it is not exposed to the volatility of the Turkish lira and other local currencies.

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Summa company overview

Summa Group was established in 1989 as an outward-looking construction contractor targeting projects in the new markets emerging after the collapse of the Soviet Union. Over the next 30 years, the company expanded its reach to Eastern Europe, South America and Africa, earning a reputation as a reliable contractor, capable of delivering complex projects on time and on budget. Since 2010, the African continent has become central to Summa's business, offering unparalleled opportunities for growth and transformation. During its lifetime, Summa has completed construction of 84 projects in 12 countries, with a total area of more than 2.3mn sqm and a combined value of US$3.0bn (EUR2.4bn).

The pipeline of ongoing and planned projects to be completed by 2022 comprises nine contracts valued at EUR1.7bn, including the biggest project in the company's history – the greenfield development of Khartoum International Airport, estimated at US$900mn.

Summa's completed project portfolio defines it as an international construction business capable of delivering a wide range of projects, including commercial and residential property, business centres, offices and shopping malls, hospitals, hotels and industrial complexes and various infrastructure projects, such as roads and airports.

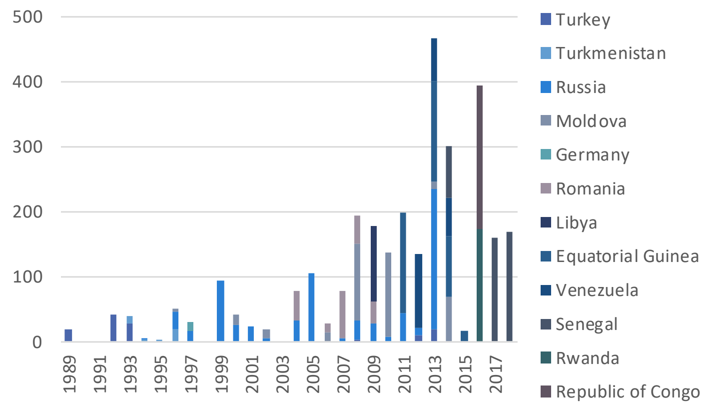
Summa employs 3,000 staff worldwide, with 80 people permanently based in its headquarters in Istanbul. According to the company, it has been ranked for the past 11 years in the top 250 international construction companies by ENR magazine. In 2018, Summa Group was ranked #226.

A successful construction contractor in emerging and frontier markets

Set up as a business in 1989 by an experienced construction executive, Mete Bora, Summa completed several projects in Turkey, including the landmark Atakule Tower and a shopping mall in Ankara, before shifting focus to the rapidly opening markets in the former Soviet Union. The company landed its first international contract with the Ministry of Oil and Gas of Turkmenistan to build Gara Altyn Presidential Guest House in the capital city Ashgabat – the building currently operates as a hotel. Between 1993 and 1996, Summa completed seven projects in the country, including government buildings, industrial facilities, irrigation systems, hotels and medical units.

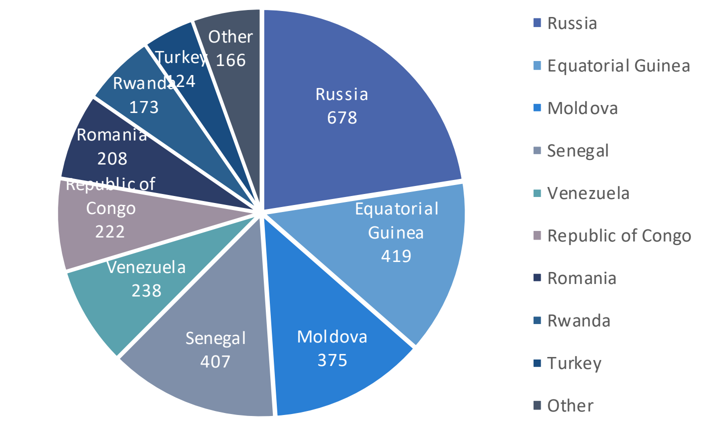
In 1992, Summa established its presence in Russia, where, over a 20-year period, the company built business centres, shopping malls, sports facilities, hospitals, factories and an international airport. Simultaneously, it rolled out operations in Moldova, where it acted both as contractor and investor in some projects, which are still owned and operated by the Group, including the MallDova shopping centre, Medpark private hospital (the biggest in Moldova) and the Radisson Blu Leogrand hotel.

Figure 1: Completed projects in 1989-2018, US$mn



Source: Company data

Figure 2: Completed projects by country, US$mn



Source: Company data

Until 2014, Russia and Moldova remained the main markets for Summa. However, amid a tightening regulatory regime, increased competition and an economic slowdown in Russia, the market started to lose its appeal and, when geopolitical tensions between the countries took Russia and Turkey to the brink of a trade war, Summa's strategic focus moved in a southerly direction.

Establishing presence in SSA

Gradual normalisation of the political landscape, the cooling of regional conflicts and accelerating economic growth turned the group's focus to SSA. Since 2008, Summa has completed more than 259,000sqm of business centres, government buildings, shopping malls, hotels and airports, and a 100,000sqm landscaping project, in Equatorial Guinea, Senegal, Rwanda and the Republic of Congo. The total value of contracts completed in the region has exceeded EUR1bn.

Table 1: Projects completed in SSA

Country	Project	Year completed
Equatorial Guinea	Sipopo Congress Centre	2011
Equatorial Guinea	Oyala Government Palace	2013
Equatorial Guinea	Sipopo Mall	2014
Equatorial Guinea	Sipopo Villa project	2014
Equatorial Guinea	Landscaping of Sipopo Villa Project	2015
Rwanda	Kigali Convention Centre an Hotels	2016
Republic of Congo	Kintele Congress Centre and Hotel	2016
Senegal	Diamniadio International Congress Centre	2014
Senegal	Diamniadio Business Hotel	2017
Senegal	Blaise Diagne International Airport	2017
Senegal	Dakar Sports Hall, Business Hotel and Expo Centre	2018

Source: Company data

In 2017, Summa signed its first concession agreement to build and operate Blaise Diagne International Airport in Dakar (Senegal) in partnership with Limak (a Turkish construction company with airport management expertise). Summa and Limak hold 33% interests each in the airport's operating company, with the remaining 33% owned by AIDB (a Senegal government entity). This project helped the company to increase its recognition in the airport segment, paving the way for BOT projects in Niger and Sudan, where Summa has assumed the role of both investor and general contractor. We expect long-term concession agreements to allow the company to recover its investments and help raise sufficient debt to finance construction works.

Summa continues to explore multiple opportunities in SSA, where most of its projects planned for 2019-22 are concentrated.

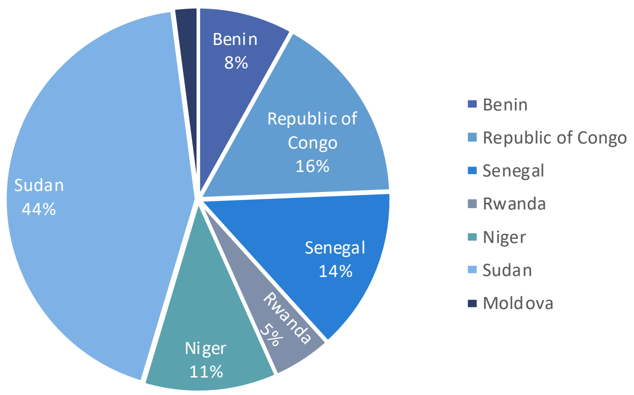
EUR1.7bn Africa-focused project pipeline

Summa has nine projects in the pipeline for 2019-22 amounting to EUR1.7bn, including EUR0.7bn-worth of construction contracts in Senegal, Benin and the Republic of Congo, EUR0.9bn in BOT investment projects to modernise and develop international airports in Niger and Sudan, as well as smaller contracts funded through a public-private partnership (PPP) mechanism and investments in the hospitality and property management segments.

The total project value for the next five years is comparable to the value of all 84 projects completed by Summa since 1989, making it an ambitious target to achieve. To meet the set goals, the company may require external funding.

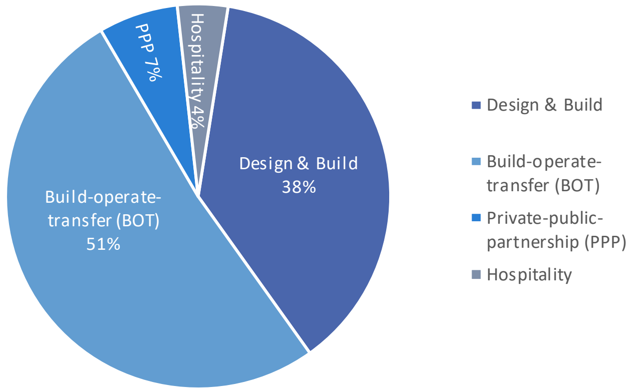
According to Summa's estimates, in 2019-22, the company will contribute EUR220mn in the form of equity investments and receive EUR987mn in contract revenue, advances and equity injections from local authorities, and seeks to raise EUR526mn in debt. The main part of the external funding (EUR399mn) will be designated to the Diori Hamani International Airport in Niger and Khartoum International Airport in Sudan.

Figure 3: Project pipeline by country, 2019-22



Source: Company data

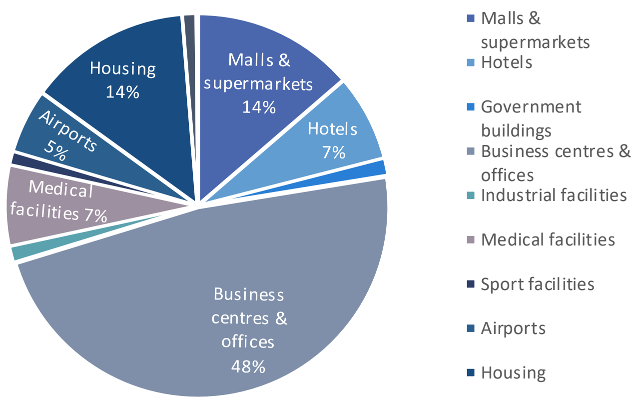
Figure 4: Projcet pipeline by type, 2019-22



Source: Company data

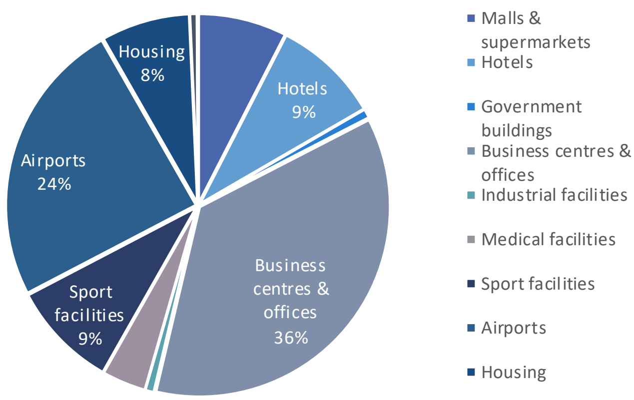
Until recently, Summa had mainly acted as a construction contractor, but big airport projects will change the company's profile by 2022. Subject to successful delivery, the company's completed project pipeline may undergo a transition, with the share of airports increasing to 24% in 2022 from 5% in 2018.

Figure 5: Completed project portfolio by type, 1989-2018



Source: Company data

Figure 6: Completed project portfolio by type, 2022f



Source: Company data

Table 2: Project pipeline, 2019-22

Country	Project	Type	Progress	Expected completion	Currency	Contract value (mn)	Summa's investment (mn)	Employer/partner commitment (mn)	Debt financing (mn)
SSA									
Benin	Sofitel Hotel and renovation of Cotonou International Conference Centre	Construction (design & build)	in progress	2020	EUR	137		137	
Republic of Congo	Kintele Congress Complex[1]	Construction (design & build)	in progress	2020	EUR	277		277	
Senegal	Dakar Olympic Stadium	Construction (design & build)	in progress	TBD	EUR	250		250	
Rwanda	Indoor Stadium (10,000-seater)	Private-public partnership (PPP)		2019	US$	104	30	31	43
Sudan	Khartoum International Airport (Phase I)	Build-operate-transfer (BOT)		2022	US$	900	135	365	400
Niger	Diori Hamani International Airport	Build-operate-transfer (BOT)	in progress	2019	EUR	154	54		100
Niger	Niamey Hotel	Hospitality and property management		2019	EUR	38	13		25
Total SSA						**1,680**	**203**	**989**	**488**
Other countries									
Moldova	Chisinau Arena	Private-public partnership (PPP)		2019	EUR	41	7	10	14
Moldova	MallDova Plaza Hotel and Office Complex	Hospitality and property management		2019	EUR	35	11		25
Total other countries						**76**	**18**	**10**	**39**
Total pipeline and projects in progress[2]						**1,756**	**221**	**999**	**526**

Source: Company data, Exotix Research

1 *Total project value – EUR477mn; remaining contract value – EUR277mn.*
2 *US$-denominated amounts translated into EUR using US$1.22 to EUR1 exchange rate.*

Benin – EUR137mn

- **Sofitel Hotel and renovation of Cotonou International Conference Centre.** Acting as a general contractor on a EUR137mn design & build project, Summa is employed by the Ministry of Economy and Finance of Benin.

Republic of Congo – EUR277mn

- **Kintele Congress Complex.** In 2015, the company started building Kintele Congress Complex, commissioned by the government of the Republic of Congo. Of the total project cost amounting to EUR477mn, 42% of the works have been completed. The remaining outstanding value of the project amounts to EUR277mn. A substantial portion of the funding for this project – EUR295mn – was provided by Turkish Exim Bank in the form of loans to the government.

Senegal – EUR250mn

- **Dakar Olympic Stadium.** This is a EUR250mn project, which could receive EUR200mn of funding from the Ministry of Finance of Senegal.

Rwanda – US$104mn (EUR85mn)

- **Indoor stadium.** Financed as a PPP, the 10,000-seater indoors stadium will require US$104mn of investment, with the Rwanda Housing Authority and Ministry of Sports and Culture paying 30% of the costs.

Sudan – US$900mn (EUR738m)

- **Khartoum International Airport.** Phase I of Khartoum International Airport, a greenfield project in Sudan, is the most demanding in terms of required financial resources. Total investment of US$900mn (EUR738mn) will include a US$365mn (EUR299mn) capital injection from the Sudan authorities, a US$135mn equity contribution from Summa and a further US$400mn of external funding, which could be structured on project finance terms. Construction of the airport will take four years and Summa will operate the airport for 25 years under the terms of the concession agreement. Summa is entitled to a US$41 infrastructure development charge per departing international passenger until 2024 and US$35 thereafter.

Niger – EUR154mn

- **Diori Hamani International Airport.** Modernisation of the international airport in Niamey, Niger, is the first full-cycle build-operate-transfer project for Summa, a EUR154mn investment, which it funded with a combination of debt (EUR100mn) and equity (EUR54mn). Under the terms of a 30-year concession agreement, Summa is entitled to a EUR52 infrastructure development charge per departing international passenger collected directly from IATA – the trade association for the world's airlines.
- **Niamey Hotel.** A EUR38mn project to design and build a hotel for 191 rooms in Niamey, Niger. Summa acts both as an investor and general contractor. Once completed, the hotel will add to the company's revenue-generating properties, increasing income from its property management and hospitality business.

Moldova – EUR76mn

- **Chisinau Arena.** A EUR31mn construction project to build a sports stadium in Chisinau, Moldova, that will be co-funded by the government, which is contributing EUR10mn as an advance payment.
- **MallDova Plaza Hotel and Office Complex**. In Moldova, where Summa has a portfolio of income-generating real estate investments, the company will add another property – a hotel and business centre in Chisinau. The EUR35mn project is scheduled for completion in 2019.

Key operating principles

Summa has established itself as a competent construction company capable of carrying out complex projects in challenging geographical conditions in Africa. Many SSA countries have obsolete or undeveloped transport infrastructure, few or no building materials that can be sourced locally and a lack of people qualified to work in the modern construction industry.

A typical SSA construction project carried out by the company heavily relies on imported labour, materials and, in fact, capital. Summa ships 70-80% of building materials from Turkey and, whenever possible, uses Turkish technological solutions and equipment. The company also relies on Turkish construction workers, which represent 50-60% of personnel employed on a project. According to the management, over time, they have retained a loyal expatriate workforce that is deployed at various sites.

Summa has experience working on projects financed by the Export Credit Bank of Turkey (Turkish Exim Bank). For example, Summa acted as a general contractor for Diamniadio International Congress Centre and Business Hotel, Expo Centre, and a 15,000-seater indoor stadium in Senegal, both commissioned and paid for by the Ministry of Finance and funded by Turkish Exim Bank loans. A similar mechanism is used in the construction of Kintele Congress Centre in the Republic of Congo. Altogether, Turkish Exim Bank provided EUR295mn in loans to the Senegal and Republic of Congo governments to finance construction projects carried out by Summa.

Summa follows a strict code of conduct operating in African countries. The set of rules the company scrupulously follows on the construction side include:

- *Abide by a host country's laws and regulations*. Summa ensures it signs employment contracts with the temporary local workers it attracts, reports to the local authorities and pays all the legally required social taxes and contributions.
- *Observe local ways of life and traditions*. Summa sets a curfew for expatriate workers to return to the gated premises of construction sites to avoid potential conflicts with local populations that might compromise the company's reputation and reflect negatively on the business.

Historical financials

Summa's audited consolidated financial statements present the company as a construction business with volatile revenue affected by changes in the project pipeline and prudent cash management, allowing it to operate with a minimal debt level.

Some might view the company's historically neutral-to-slightly-negative operating cash flows as a constraint on its ambitious growth plans. However, new investment projects with a built-in return-on-investment mechanism are set to change Summa's business profile, paving the way for its transition from a construction contractor to an integrated construction company with a portfolio of income-generating hospitality properties and airport concessions.

Revenue driven by construction volumes. Summa's revenue has seen sharp changes in the past five years as the timing of the start and completion of projects has significantly affected the top line, which is not uncommon in the industry. The company's revenues come largely from construction contracts and are recognised according to the percentage-of-completion method.

The recurring income from operating a hospital, shopping mall and hotel in Moldova contributed EUR19mn, EUR23mn and EUR25mn to the consolidated top line in 2015, 2016 and 2017, respectively, generating income that does not rely on the construction pipeline.

Over time and subject to completion of the projects, Niger and Khartoum airports could help build a more stable revenue stream, generated by property management.

We analyse the economics of these projects further in this report.

Table 3: Key financial highlights

		2012	2013	2014	2015	2016	2017
Revenue	EURmn	260	268	213	292	332	179
% change	%		3%	-21%	37%	14%	-46%
Cost of sales	EURmn	-190	-225	-150	-212	-247	-137
% change	%		19%	-33%	41%	17%	-45%
EBITDA	EURmn	44	50	39	48	79	33
% change	%		14%	-22%	23%	65%	-58%
Net income	EURmn	8	35	30	39	56	22
Cash flow from operations*	EURmn	34	24	39	35	76	35
Changes in working capital	EURmn	-11	-61	21	-37	-46	-40
Capex	EURmn	-5	-25	-15	0	0	-4
Free cash flow	EURmn	18	-62	45	-2	30	-9
Dividends paid	EURmn	-3	0	-2	-3	-1	0
Net borrowing	EURmn	18	30	-58	-27	10	-5
Sale of investment properties	EURmn	-2	27	1	-28	0	0
Other	EURmn	13	6	8	21	-27	12
Net change in cash	EURmn	44	2	-6	-38	11	-3
Cash and cash equivalents	EURmn	55	57	51	13	24	21
Short-term debt	EURmn	38	26	26	8	24	6
Long-term debt	EURmn	22	71	20	10	5	18
Total debt	EURmn	60	96	45	18	29	23
Net debt	EURmn	5	39	-6	6	5	2
EBITDA margin	%	17%	19%	18%	16%	24%	18%
Total debt/EBITDA	x	1.4	1.9	1.2	0.4	0.4	0.7
Net debt/EBITDA	x	0.1	0.8	-0.1	0.1	0.1	0.1
Short-term debt, %	%	64%	27%	57%	44%	84%	24%

Source: Company data, Exotix research

Isolated FX risk. Summa's contracts are signed in hard currency, USD or EUR, and most of the costs of the international construction projects are also incurred in foreign currency or linked to the hard-currency denominated benchmarks in the case of construction materials. Although it is incorporated in Turkey, Summa is not exposed to the volatility of the lira and its recent depreciation. For the same reason, the company is not directly exposed to local currencies in the countries where it operates. In fact, the fast deterioration of the lira in 2018 may have led to positive FX gains for Summa due to the delivery of the majority of construction materials, equipment and spare parts from Turkey, and a time lag in price adjustment and inventory cost pass-through.

Little borrowing in the past allows for more in the future. Summa has operated without raising any significant amounts of debt due to its efficient cash flow management, which allows it to match payments under construction contracts with cash outlays. Since the company does not generate meaningfully positive operating cash flows, its borrowing capacity appears to be constrained by the amount that can be allocated to interest payments on a potential long-term credit facility that can be raised at the company level. However, the company's BOT airport contracts, which incorporate return-on-investment mechanisms, could provide a basis for project finance-type debt facilities structured to match the airports' expected future cash flows.

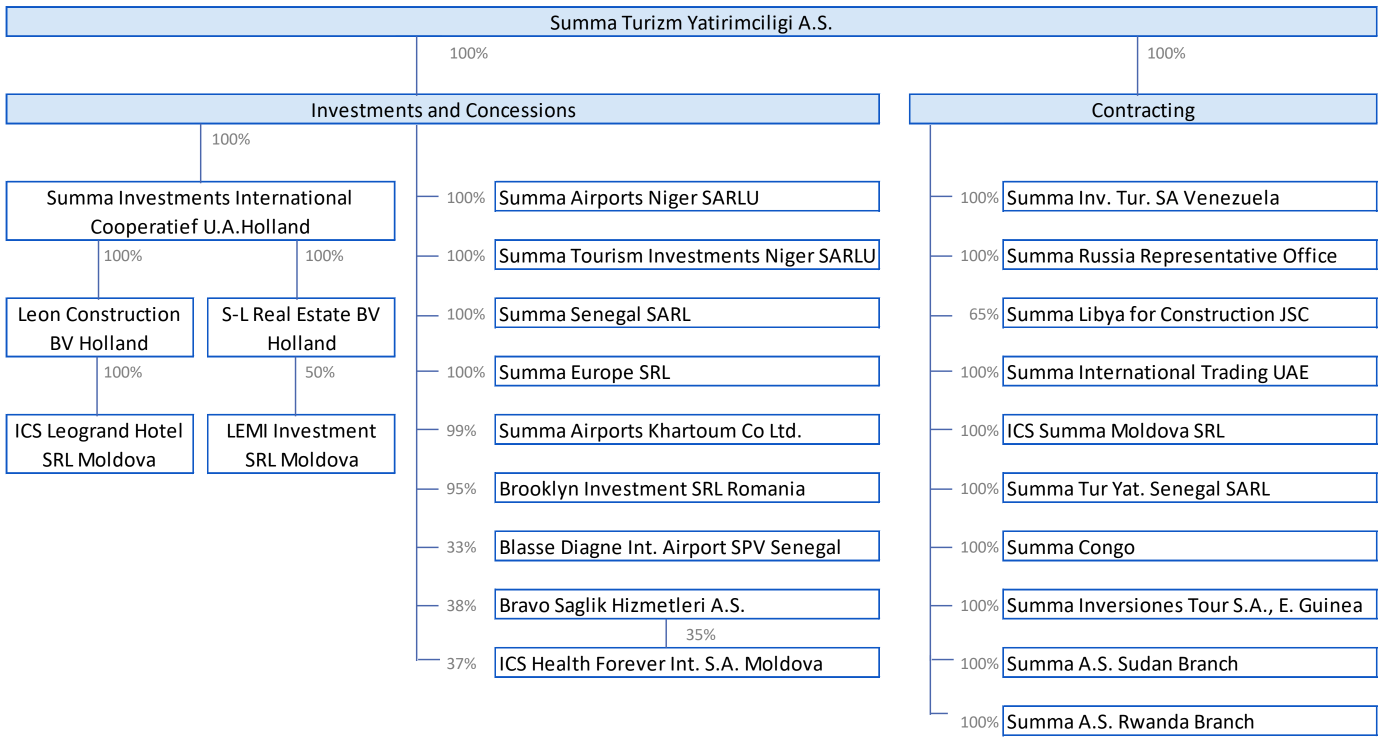
Niger and Khartoum airport concessions could add at least EUR100mn per annum to operating profits from 2022. The company expects to raise EUR399mn of external funding to finance the airport concessions. We estimate the new airport business could generate operating profits of at least EUR100mn per annum after 2022. Summa expects to manage its risks through fixed infrastructure development charges collected directly from IATA. Over the life of the concession agreements, these charges could amount to at least EUR1.4bn (assuming no growth in air traffic movements and passenger volumes), securing an abundant revenue stream to recoup total investment.

Corporate structure and management

Established as a family-run business in 1989, the company remains privately owned, controlled and managed by the second generation of the Bora family. Selim Bora, President and Chairman of Executive Board, and Sinan Bora, Board Member, control 77% of the voting shares and, together with Fatih Bora, Chief Executive Officer, run the day-to-day operations of the company.

Summa's holding company – Summa Turizm Yatirimciligi A.S. – is incorporated in Turkey and consolidates all business activities of the group.

Figure 7: Corporate structure



Source: Company data

Management team

- Fatih Bora, CEO and Vice Chairman of Summa, started his career with the company in 1996 as a field engineer, and was a Board Member in 2003-08. Fatih Bora holds a civil engineering degree from Middle East Technical university in Turkey and a master's degree in business administration earned in the Thunderbird University in the US.
- Haydar Ergun, CFO, joined the company in 2005 as finance director for several regions and general manager of MallDova shopping mall. Haydar Ergun was promoted to the CFO role in 2015. He holds bachelor's and master's degrees in economics from Marmara University in Turkey.
- Envar Sayan, Chief Operating Officer, joined the company in 2003 as a supervisor, was promoted to regional director for Libya and Romania in 2006 and assumed his current role in 2015. Envar Sayan holds a bachelor's degree in architecture from Istanbul Technical University.

Summa is governed by the board of four directors, including all controlling shareholders of the company:

- Selim Bora joined Summa in 1993 and held various managerial positions until 1999, when he became Chairman of the Executive Board. Selim Bora has an undergraduate degree in metallurgical and materials engineering from Middle

East Technical University in Turkey and a graduate degree in industrial engineering from Alfred University in the US.

- Sinan Bora, joined Summa in 2003 and served as general manager of Moldova hotel in 2005-2011 and general director of Moldova Hospital in 2011. Sinan Bora holds bachelor's degrees in economics from Bilkent University in Turkey and a B.A. from the University of California (Berkeley) in the US.
- Okan Sargin, Vice President, has been a board member of Summa since 2000. Okan Sargin holds bachelor's and master's degrees in geological engineering from Middle East Technical University in Turkey.
- Osman Ozer Ozkan has been a board member since 1990, having joined the company after 25 years in the international construction industry. He has bachelor's and master's degrees in civil engineering from Middle East Technical University in Turkey.

Diori Hamani International Airport (Niger)

We estimate the project will generate operating profits of EUR3,804mn over its 30-year life.

Originally built in 1947, Diori Hamani International Airport (DHIA) now serves over 300,000 passengers every year. The number of passengers has increased by 9% annually (seven-year, 2011-17 CAGR) and we expect an increase to c519,000 passengers in 2023. The state-owned Niger Airport Holding Company (NAHC) now plans to expand the airport to address the increase in passenger traffic; Summa has been awarded a 30-year BOT concession, which includes a EUR154mn airport rehabilitation project.

In addition to the aeronautical and non-aeronautical revenue, Summa will generate income from its share in DHIA's ground-handling business. Moreover, it is entitled to a EUR52 infrastructure development charge per departing international passenger collected directly through IATA.

Based on a mix of publicly available information and the data from InterVISTAS Consulting[3], we estimate a 19.4% internal rate of return (IRR) for the project and a cash payback of nine years. We estimate the project will generate operating profits of EUR3,804mn over its 30-year life.

Our forecasts are premised on the four different types of revenue (aeronautical, non-aeronautical, ground handling charge, infrastructure development fees) and operating expenses. The two key drivers of both the revenue and the operating expenses are: 1) air traffic movements; and 2) passenger movements.

According to the International Civil Aviation Organisation (ICAO)[4], GDP per capita is one of the two most important drivers of the annual change in passenger traffic and air freight demand. Given Niger's narrow economic base and limited intercontinental connections, we have used the country's macroeconomic data from the IMF to estimate changes in GDP per capita and, in turn, air traffic and passenger movements (using a multiple of 2.0x of GDP per capita growth).

Table 4: Growth in GDP/capita, air traffic and passenger movements

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Growth									
GDP per capita	9%	5%	7%	4%	-15%	1%	6%	12%	3%
Air traffic movements	8%	16%	19%	9%	2%	14%	2%	2%	6%
Passenger movements	8%	21%	12%	12%	-4%	9%	8%	2%	6%
Multiple of GDP/capita growth									
Air traffic movements	1.0	3.2	2.7	2.2	- 0.1	11.7	0.3	0.2	2.0
Passenger movements	1.0	4.2	1.7	2.9	0.2	7.7	1.4	0.2	2.0

Source: IMF, InterVISTAS, Exotix Research

With the influx of larger, more cost-effective aircrafts (and the perennial phase-out of small, operationally more expensive ones), the fleet-mix is expected to change and drive average unit revenue higher over time.

3 *InterVISTAS Consulting Inc. (InterVISTAS) is a leading management consulting company with expertise in aviation, transportation and tourism. InterVISTAS has completed more than 2,000 projects with over 500 clients in over 75 countries worldwide including (but not limited to) some of the world's busiest airports, such as Amsterdam Schiphol, Istanbul Ataturk and Singapore Changi. The revenue and operating cost estimates in our cash flow analysis are based on the feasibility report prepared by InterVISTAS (commissioned by Summa), which is based on the former's experience and benchmark information.*

4 *ICAO Long-Term Traffic Forecasts (Passenger and Cargo, July 2016).*

Revenue

As the concessionaire of DHIA, Summa is entitled to four different types of revenue: 1) an infrastructure development fee collected directly from IATA; 2) non-aeronautical revenue; 3) aeronautical revenue; and 4) ground handling fees.

Infrastructure development charge

Summa is entitled to the EUR52 fee per departing international passenger. Like the aeronautical charges, the infrastructure development charge is also adjusted for inflation (effectively, every five years).

Table 5: Infrastructure development charge, EUR

	2018	2021	2026	2031
Per passenger	52.0	52.0	58.1	64.7

Source: InterVISTAS, Exotix Research

Non-aeronautical revenue

These comprise the per-passenger revenue generated from expenditure on retail, food & beverage, car parking and various other goods and services that passengers consume at the airport. According to InterVISTAS, DHIA generated non-aeronautical revenue of US$3.5 per passenger in 2016, which was higher than the US$2.8 for benchmark African airports with fewer than 5mn annual passengers.

We estimate that the 2018 unit revenue (per passenger) could be EUR3.2 (or US$3.9) and that it increases with US inflation (2.1-2.4%) annually.

Table 6: Non-aeronautical revenues, EUR

	2018	2021	2026	2031
Per passenger	3.2	3.8	4.2	4.7

Source: InterVISTAS, Exotix Research

Aeronautical revenue

Aeronautical revenue comprises four broader charges (explained below): 1) landing and take-off; 2) aircraft parking; 3) passenger service; and 4) others (such as cargo, fuel, air bridge and common use of terminal). These charges vary with the air traffic movements[5] and aircraft fleet-mix. These regulated charges are adjusted for inflation (effectively, every five years, according to our estimates) and we assume that Summa will be entitled to 80% of the aeronautical revenue.

Landing and take-off charges

These are determined by the maximum take-off weight (MTOW) of visiting aircraft and the traffic category (international or domestic), while the revenues are calculated using the air traffic movements and the projected fleet mix.

Table 7: Landing/take-off (EUR) charges and fleet mix (%)

	Charges (EUR)				Fleet mix			
Category	2018	2021	2026	2031	2018	2021	2026	2031
International								
A (4 tons)	16	16	18	20	6%	5%	4%	2%
B (12 tons)	48	48	53	60	14%	12%	10%	8%
C (60 tons)	379	379	423	471	55%	56%	59%	61%
D (150 tons)	1,344	1,344	1,502	1,673	4%	3%	2%	1%
E (300 tons)	2,932	2,932	3,276	3,650	21%	23%	25%	27%
Domestic								
A (4 tons)	3	3	4	4	17%	15%	14%	12%
B (12 tons)	10	10	12	13	67%	63%	56%	50%
C (60 tons)	273	273	305	339	17%	22%	30%	38%
D (150 tons)	979	979	1,094	1,218	0%	0%	0%	0%
E (300 tons)	2,118	2,118	2,367	2,637	0%	0%	0%	0%

Source: InterVISTAS, Exotix Research

Aircraft parking charges

Unlike the landing and take-off charges, aircraft parking charges do not vary with the traffic category. It is assumed that half of the visiting aircrafts would exceed the two-hour free parking limit and that the average duration of parked aircrafts is four hours.

Table 8: Aircraft parking charges, EUR

Category	2018	2021	2026	2031
A (4 tons)	0.3	0.3	0.3	0.4
B (12 tons)	0.9	0.9	1.0	1.1
C (60 tons)	4.6	4.6	5.1	5.7
D (150 tons)	11.4	11.4	12.8	14.2
E (300 tons)	22.9	22.9	25.5	28.5

Source: InterVISTAS, Exotix Research

5 *According to ICAO, one arrival and one departure are counted as two movements for airport traffic purposes. Therefore, landing/take-off and aircraft parking charges at DHIA are applicable to only 50% of total aircraft movements.*

Passenger service charges

These are charged to every departing passenger and vary with the type of passenger movement (ie international or domestic).

Table 9: Passenger service charges, EUR

Category	2018	2021	2026	2031
International	15.2	15.2	17.0	19.0
Domestic	2.3	2.3	2.6	2.8

Source: InterVISTAS, Exotix Research

Other charges

Other charges, such as cargo, fuel and common use of terminal, vary with respect to air traffic, passenger and cargo movements. Summa will be introducing air bridge charges (levied on every departing passenger).

According to InterVISTAS, these charges amount to 10-25% of the landing/take-off charges. We have used 10% for our estimates, as the benchmark information is at the lower end of this range.

Table 10: Other charges

Category	Unit	2018	2021	2026	2031
Cargo	EUR/tonne	76.2	76.2	85.2	94.9
Fuel		38.1	38.1	42.6	47.4
- per international flight	EUR	9.5	9.5	10.6	11.9
- per domestic flight	EUR				
		0.8	0.9	1.0	1.1
Common use of terminal	EUR/passenger	76.2	76.2	85.2	94.9

Source: InterVISTAS, Exotix Research

Share in the ground-handling business

In addition to the aeronautical and non-aeronautical revenue, Summa will generate income from its share in DHIA's ground-handling business. This is a labour-intensive business with low operating margins. The business varies with the size of the aircraft and the number of passengers handled.

For our forecasts, we have used InterVISTAS's estimate of US$1,500 per aircraft visit (which is adjusted for US inflation every year) and a 15% operating margin.

Operating expenses

Operating expenses comprise the costs incurred from staffing, contracted services, communications and utilities as part of the general airport operations. According to InterVISTAS, DHIA's operating expenses in 2016 were almost twice as high as the benchmark African airports with fewer than 5mn annual passengers.

Summa suggests that the number of staff is sufficient to operate DHIA during the life of the concession and, being a private operator, the company is likely to run the airport very efficiently; however, we expect that the annual expenses will increase at least in line with the US inflation.

Table 11: Operating expenses

	2018	2021	2026	2031
EURmn	4.5	5.2	6.8	8.9

Source: InterVISTAS, Exotix Research

Cash flow analysis

Below, we present a snapshot of the project's expected cash flow and its IRR estimate. We provide a sensitivity analysis for the project's IRR further below.

Table 12: DHIA – cash flow analysis

	Units	2018f	2019f	2020f	2021f	2022f	2023f	2024f	2025f	2026f	2027f	2028f
Revenues	EURmn	14	15	17	19	24	26	29	32	35	43	47
- infrastructure development	EURmn	7	8	8	9	12	13	14	16	17	21	23
- non-aeronautical	EURmn	1	1	1	1	1	2	2	2	2	3	3
- aeronautical	EURmn	5	6	7	7	9	10	11	12	14	17	19
- income from ground handling	EURmn	1	1	1	1	1	2	2	2	2	2	3
Operating expenses	EURmn	(4)	(5)	(5)	(5)	(6)	(6)	(6)	(6)	(7)	(7)	(8)
EBITDA	EURmn	10	11	12	14	18	21	23	26	29	36	40
Income tax	EURmn	-	-	-	-	-	-	-	-	-	-	-
Capital expenditure	EURmn	(79)	(81)	-	-	-	-	-	-	-	-	-
Net cash flow	EURmn	(69)	(70)	12	14	18	21	23	26	29	36	40
Total investment	**EURmn**	**154**										
Summa's equity	EURmn	54										
External debt	EURmn	100										
IRR	**%**	**19.4%**										

Source: Exotix Research

Table 13: DHIA – cash flow analysis (continued)

	Units	2029f	2030f	2031f	2032f	2033f	2034f	2035f	2036f	2037f	2038f
Revenues	EURmn	52	57	63	77	84	93	103	113	137	151
- infrastructure development	EURmn	25	28	30	37	41	45	49	54	66	72
- non-aeronautical	EURmn	3	4	4	5	5	6	6	7	8	9
- aeronautical	EURmn	21	23	25	31	34	37	41	46	56	62
- income from ground handling	EURmn	3	3	4	4	5	5	6	7	8	8
Operating expenses	EURmn	(8)	(8)	(9)	(9)	(10)	(10)	(11)	(12)	(12)	(13)
EBITDA	EURmn	44	49	54	67	75	83	92	101	125	138
Income tax	EURmn	(10)	(12)	(14)	(18)	(21)	(23)	(26)	(29)	(36)	(40)
Capital expenditure	EURmn	-	-	-	-	-	-	-	-	-	-
Net cash flow	EURmn	34	37	40	49	54	60	66	73	89	98

Source: Exotix Research

Table 14: DHIA – cash flow analysis (continued)

	Units	2039f	2040f	2041f	2042f	2043f	2044f	2045f	2046f	2047f	2048f
Revenues	EURmn	166	182	201	242	266	293	322	354	427	470
- infrastructure development	EURmn	79	86	95	116	127	139	153	167	205	224
- non-aeronautical	EURmn	10	11	13	14	16	18	20	23	25	28
- aeronautical	EURmn	68	74	81	99	108	119	130	143	174	191
- income from ground handling	EURmn	9	11	12	13	15	17	19	21	24	26
Operating expenses	EURmn	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(23)	(24)
EBITDA	EURmn	152	168	185	226	249	274	302	333	405	446
Income tax	EURmn	(44)	(48)	(54)	(66)	(73)	(80)	(89)	(98)	(120)	(132)
Capital expenditure	EURmn	-	-	-	-	-	-	-	-	-	-
Net cash flow	EURmn	108	119	131	160	176	194	213	235	285	314

Source: Exotix Research

Sensitivity analysis of IRR and EBITDA

We estimate a 19.4% IRR for the project and a cash payback of nine years. According to our estimates, this project could generate operating profits (or EBITDA) of EUR3,804mn over its 30-year life; this could range between EUR958mn and EUR19,308mn, using different macroeconomic assumptions.

The key factors affecting the project's cash flow are: 1) the growth in air traffic movements and passenger volumes (which depend on our assumption of the multiple of GDP/capita growth); and 2) US inflation. Below, we provide a sensitivity analyses of the IRR and EBITDA for different assumptions of these factors.

Table 15: IRR, %

		Multiple of GDP/capita growth				
		1.0	1.5	2.0	2.5	3.0
	0.0%	17.9%	18.0%	18.0%	18.1%	18.1%
	1.0%	18.4%	18.5%	18.5%	18.6%	18.7%
Inflation	2.2%	19.3%	19.3%	**19.4%**	19.4%	19.5%
	3.0%	19.9%	19.9%	20.0%	20.0%	20.1%
	4.0%	20.6%	20.7%	20.7%	20.8%	20.9%
	5.0%	21.5%	21.5%	21.5%	21.6%	21.7%

Source: Exotix Research

Table 16: EBITDA, EURmn

		Multiple of GDP/capita growth				
		1.0	1.5	2.0	2.5	3.0
	0.0%	958	1,587	2,645	4,429	7,438
	1.0%	1,085	1,823	3,073	5,194	8,790
Inflation	2.2%	1,306	2,227	**3,804**	6,499	11,099
	3.0%	1,480	2,548	4,384	7,535	12,931
	4.0%	1,739	3,026	5,249	9,084	15,675
	5.0%	2,077	3,651	6,387	11,128	19,308

Source: Exotix Research

IMF staff team:

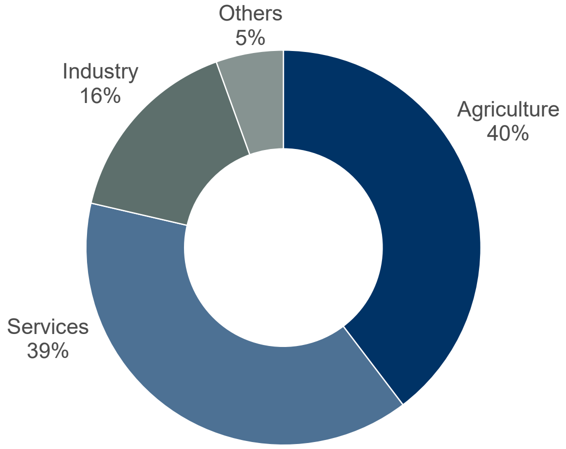
"Economic growth is expected to pick up from 5.2% this year to 6.5% in 2019".

About Niger

Niger is one of the largest land-locked countries in Africa. Situated over 1,000km from the nearest seaport (Cotonou, Benin), long land routes and high inland freight costs weigh on its economic activity. As a result, Niger's major asset is the international airport in Niamey (its capital), which is a key link for international air transport, connecting the country with the rest of Africa and a handful of European destinations. With the influx of more cost-effective aircrafts, it is essential for Niger to invest in its air transport infrastructure.

Niger largely depends on subsistence crops and livestock and has the sixth-largest uranium deposits in the world. Droughts, desertification[6], high population growth and a drop in global uranium demand have eaten into the country's narrow economic base. However, the recent IMF staff review[7] suggests that economic growth is picking up on the back of a favourable crop season, some large-scale projects and the government's reform programme[8] (which is supported by the IMF under the extended credit facility arrangement).

Figure 8: Niger's GDP by sector (2017)



Source: World Bank

6 *Niger – gas to stop desertification (Le Monde Afrique, July 2015).*
7 *IMF staff completes review mission to Niger (IMF, October 2018).*
8 *Niger – Social and Economic Development Program 2017-2021.*

New Khartoum International Airport (Sudan)

We estimate the project will generate operating profits of US$7.0bn over its 25-year life.

Khartoum International Airport (KIA) serves 3.4mn passengers every year. The number of passengers has increased by 5% annually (10-year, 2008-17 CAGR) and we expect an increase to 4.4mn passengers by 2030. Summa has been selected to construct a new international airport and was awarded a 25-year BOT concession. The total cost of construction is estimated at US$908mn, which includes US$8mn for ground handling equipment.

In addition to the aeronautical, non-aeronautical and ground-handling revenues, Summa will be entitled to an infrastructure development charge of US$41 per departing international passenger until 2024 and US$35 thereafter.

Based on a mix of publicly available information and the data from InterVISTAS Consulting, we estimate a 16.1% IRR for the project and a cash payback of 10 years. We estimate the project will generate operating profits of US$7.0bn over its 25-year life.

Cash flow analysis

Below, we present a snapshot of the project's expected cash flow and its IRR estimate. We provide a sensitivity analysis for the project's IRR further below.

Table 17: KIA – cash flow analysis

	Units	2018f	2019f	2020f	2021f	2022f	2023f	2024f	2025f	2026f	2027f	2028f
Revenues	USDmn	-	-	72	120	193	185	196	199	210	223	236
- infrastructure development	USDmn	-	-	34	58	56	53	56	50	53	56	59
- non-aeronautical	USDmn	-	-	9	15	15	15	16	17	18	20	21
- aeronautical	USDmn	-	-	15	25	100	96	101	106	112	118	125
- income from ground handling	USDmn	-	-	13	22	22	21	23	25	27	29	31
Operating expenses	USDmn	-	-	(28)	(49)	(49)	(49)	(51)	(54)	(57)	(59)	(62)
EBITDA	USDmn	-	-	43	72	144	136	144	145	154	163	174
Income tax	USDmn	-	-	-	-	-	-	-	-	-	-	-
Capital expenditure	USDmn	(154)	(314)	(321)	(173)	-	-	(0)	(0)	(0)	(0)	(1)
Net cash flow	USDmn	(154)	(314)	(278)	(101)	144	136	144	144	153	163	173
Total investment	**USDmn**	**900**										
Summa's equity	USDmn	135										
External debt	USDmn	400										
Government of Sudan	USDmn	365										
Project IRR		**16.1%**										

Source: Exotix Research

Table 18: KIA – cash flow analysis (continued)

	Units	2029f	2030f	2031f	2032f	2033f	2034f	2035f	2036f	2037f	2038f
Revenues	USDmn	250	265	280	297	315	333	353	374	396	420
- infrastructure development	USDmn	62	66	69	73	77	81	85	90	94	100
- non-aeronautical	USDmn	23	24	26	28	30	33	35	38	41	44
- aeronautical	USDmn	132	139	146	154	162	171	180	190	200	211
- income from ground handling	USDmn	33	36	39	42	45	49	53	57	61	66
Operating expenses	USDmn	(65)	(69)	(72)	(76)	(79)	(83)	(87)	(92)	(96)	(101)
EBITDA	USDmn	185	196	208	221	235	250	266	282	300	319
Income tax	USDmn	-	-	-	-	-	-	-	-	-	-
Capital expenditure*	USDmn	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(228)	(1)	(1)
Net cash flow	USDmn	184	195	208	221	234	249	265	55	299	318

*Source: Exotix Research, * 2036f capex to accommodate passengers in excess of 6mn.*

Table 19: KIA – cash flow analysis (continued)

	Units	2039f	2040f	2041f	2042f	2043f	2044f	2045f	2046f
Revenues	USDmn	445	472	500	531	563	597	633	671
- infrastructure development	USDmn	105	110	116	123	129	136	143	151
- non-aeronautical	USDmn	47	51	55	59	64	69	74	79
- aeronautical	USDmn	222	234	246	259	273	288	303	320
- income from ground handling	USDmn	71	77	83	89	96	104	112	121
Operating expenses	USDmn	(106)	(111)	(116)	(122)	(128)	(135)	(141)	(148)
EBITDA	USDmn	339	361	384	408	434	462	492	523
Income tax	USDmn	-	-	-	-	-	-	-	-
Capital expenditure*	USDmn	(1)	(1)	(1)	(2)	(2)	(361)	(2)	(2)
Net cash flow	USDmn	338	360	383	407	433	101	490	521

*Source: Exotix Research, * 2044f capex to accommodate passengers in excess of 9mn.*

Sensitivity analysis of IRR and EBITDA

We estimate a 16.1% IRR for the project and a cash payback of 10 years. According to our estimates, this project could generate operating profits (or EBITDA) of US$7.0bn over its 25-year life; this could range between US$3.7bn and US$15.7bn using different macroeconomic assumptions.

The key factors affecting the project's cash flow are: 1) the growth in air traffic movements and passenger volumes (which depend on our assumption of the multiple of GDP/capita growth); and 2) US inflation. Below, we provide a sensitivity analyses of the IRR and EBITDA for different assumptions of these factors.

Table 20: IRR, %

		Multiple of GDP/capita growth				
		0.0	**0.5**	**1.0**	**1.5**	**3.0**
	0.0%	13.5%	15.0%	16.2%	17.6%	22.0%
	1.0%	13.5%	14.9%	16.1%	17.5%	22.0%
Inflation	**2.2%**	13.4%	14.9%	**16.1%**	17.5%	22.1%
	3.0%	13.3%	14.9%	16.0%	17.5%	22.2%
	4.0%	13.2%	14.8%	16.0%	17.5%	22.3%
	5.0%	13.1%	14.8%	15.9%	17.5%	22.4%

Source: Exotix Research

Table 21: EBITDA, US$mn

		Multiple of GDP/capita growth				
		0.0	**0.5**	**1.0**	**1.5**	**3.0**
	0.0%	3,746	5,045	6,956	9,761	13,870
	1.0%	3,709	5,034	6,990	9,875	14,113
Inflation	**2.2%**	3,657	5,018	**7,042**	10,041	14,467
	3.0%	3,615	5,006	7,085	10,178	14,759
	4.0%	3,557	4,991	7,148	10,378	15,185
	5.0%	3,489	4,973	7,225	10,618	15,696

Source: Exotix Research

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