

A guide · The $500 trillion PPP infrastructure opportunity

Launch a PPP program for Family Offices in Jordan

WHAT THIS GUIDE IS FOR

Your family office launches a PPP co-investment program that invests in club deals, small-scale public-private partnership (PPP) projects and tokenized notes beside trusted developers, starting with Jordan's $86 billion and Aqaba's $46 billion of projects and building a legacy for generations.

PREPARED FOR
Family Offices in Jordan

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INTRODUCTION

A century of infrastructure reaches the end of its useful life

Most of the roads, bridges, power plants, water networks, ports and airports the world runs on were built in the last hundred years, and much of that stock is wearing out at the same time.

The infrastructure of the twentieth century was designed, poured and left to age. It carried the growth of every modern economy, and it was built for a world with fewer people, far less data and a different climate. Pipes leak, grids strain under new demand, and assets designed for one purpose are asked to carry several. Replacing them is the largest building program in human history, and it has already begun.

Rebuilding and running the world's infrastructure will take about $500 trillion over the next fifty years. It is the largest investment humanity will make in that time. Public-private partnerships (PPPs) will carry a large share of it, because governments cannot fund, build and run the rebuild alone, and the private sector cannot do it without them.

How the $500 trillion adds up

	$300T	to build the physical assets: roads, rail, ports, grids, water, cities, schools and hospitals
+	$150T	to operate and maintain them across the life of each concession
+	$50T	for the sensors, compute and robotics that will sit inside them, the share of the rebuild that venture capital can fund
=	$500T	**in total to rebuild and run the world's infrastructure over the next fifty years**

INTRODUCTION

The next hundred years will build Earth's largest computer

For thousands of years the method has stayed the same: design it, pour it, forget it, and repair it when it fails. The next generation of infrastructure will carry a software layer specified alongside the concrete. Assets will monitor their own condition, predict their own failures and schedule their own maintenance, and fleets of machines will raise them with very few human hands involved.

The larger change is the connection between assets. When a port knows what the rail line is carrying before it arrives, a water utility prices its pumping energy against the grid in real time, and every contract and drawing on every project sits in one connected record, the built world starts to behave as one system. Joined across borders, the world's roads, grids, ports, water networks, data centers and satellites become one globally connected, superintelligent computer.

Future infrastructure will be self-building, self-monitoring and self-healing. A road that senses its own cracks can schedule its own repair and use the savings to fund the next stretch. A water network that finds its own leaks can put the recovered water into meters on the next street. Each asset leaves behind the money, the data and the proof for the asset that follows it, so each new project starts further ahead than the last.

The point where the built world starts improving itself faster than anyone can direct it is the infrastructure singularity. Three technologies bring it closer: artificial intelligence designs and runs the assets, robotics builds and maintains them, and tokenization finances them and opens their ownership to everyone. Each of the three lets a family own a share of infrastructure on terms it can shape.

Infrastructure is one of the longest-lived things a family can own, and the assets of the next fifty years will be built, run and financed in new ways. Families that build a PPP program now can own a share of the rebuild and pass it to the next generation. This guide invites family offices in Jordan to launch that program, starting with the projects at home.

THE GUIDE

Co-invest in the $500 trillion PPP infrastructure opportunity

Your family office opens a dedicated PPP co-investment program, with a mandate, a small team and a circle of trusted partners, that invests beside developers and other families in projects it can shape, starting with Jordan's $86 billion of projects and the $46 billion anchored in Aqaba.

01 **Club deals.** The family office joins a small group of families and institutions to take equity in a PPP together, so each member holds a meaningful stake, shares the diligence and has a voice in how the project is run.

02 **Small-scale PPPs.** Jordan's PPP Regulation No. 9 of 2024 defines small-scale PPPs below $14.1 million, which can be bundled into one feasibility report and one tender, and PPP Law No. 19 of 2023 accepts direct private proposals under Article 15. Projects of that size suit a family office, which can lead one as sponsor or bring its own proposal to government.

03 **Partners who build.** The program invests beside developers, contractors and operators with a track record, who bring the delivery skills while the family brings patient equity and the ability to decide quickly.

04 **Tokenized notes.** The family office holds tokenized notes in operating PPPs, which pay from the project's revenue, can be sold in small amounts and can be divided among family members as easily as any other holding.

05 **A legacy across generations.** Concessions run for decades and leave behind roads, water networks, hospitals and power plants that serve the country for longer still. A PPP program gives the next generation of the family a role in owning and running assets with a public purpose.

JORDAN AND AQABA

An $86 billion pipeline to start with

Jordan has 243 PPP and infrastructure projects in development, worth about $86 billion, of which $46 billion is anchored in Aqaba. Every one of them will need equity partners who can move quickly.

$86 billion
of PPP and infrastructure projects in development across Jordan

$46 billion
anchored in Aqaba, Jordan's only port and its gateway to the Red Sea

SECTOR	PROJECTS	VALUE	WHAT THE PROJECTS WILL BUY
Energy	33	**$28.3 billion**	Grid and demand forecasting, solar and storage analytics, robotic panel cleaning, predictive maintenance
Tourism	40	**$13.8 billion**	Visitor flow and demand forecasting, resort and heritage-site operations, booking and payment rails
Urban development	17	**$13.8 billion**	Digital twins of new districts, digital permitting, modular construction, district operations
Transport	33	**$11.7 billion**	Traffic and fleet AI, tolling and payments, inspection drones for roads and rail
Industry	31	**$8.1 billion**	Factory automation, quality verification, industrial sensors and energy management
Water	29	**$7.6 billion**	Leak detection, pressure management, smart metering, pipe-inspection robots
Mining	15	**$1.2 billion**	Autonomous drilling and haulage, drone surveying, ore sorting
Health	12	**$1.0 billion**	Hospital operations AI, patient flow, equipment monitoring
Agriculture	10	**$310 million**	Precision irrigation, farm robotics, crop and soil monitoring
Environment	15	**$270 million**	Waste-sorting robotics, emissions monitoring, circular materials
Digital	6	**$270 million**	Data centers, connectivity, sovereign compute
Education	2	**$20 million**	School and training campus PPPs, digital learning, building operations and energy retrofits

A Jordanian family that co-invests in one project at home can follow the same partners to the next one across the region. Aqaba concentrates ports and terminals, logistics, rail to the port, industry, energy, water and tourism inside the Aqaba Special Economic Zone, which makes it a single place to test port automation, logistics software, desalination and energy technology on assets that connect Jordan to the world.

SECTOR GUIDES

Jordan's $86 billion, sector by sector

Jordan is investing in and advancing 23 sectors at once, and together their projects make up the $86 billion. A sector guide for each lists every project in it, its link to the infrastructure singularity and the ways a partner can take part.

The sectors closest to family offices

Oil, Gas and Power	Manaseer Oil & Gas runs Jordan's first fuel station chain and imports petroleum products. 23 projects, $15.1bn of forward investment. www.JordanPPP.com/sectors/oil-gas
Ports and Logistics	Kawar Group: shipping pioneer in Jordan with freight forwarding and warehousing; Manaseer Transport. 23 projects, $3.6bn of forward investment. www.JordanPPP.com/sectors/logistics
Manufacturing	Manaseer Cement and Mining, 3.5m tonnes a year capacity. 38 projects, $2.4bn of forward investment. www.JordanPPP.com/sectors/manufacturing
Fertilizers and Chemicals	Manaseer Chemicals makes NPK and urea phosphate fertilizers. 14 projects, $6.5bn of forward investment. www.JordanPPP.com/sectors/chemicals
Solar Power	Kawar Investment developed 37MW of private solar plants for Orange Jordan (EBRD-financed). 18 projects, $326m of forward investment. www.JordanPPP.com/sectors/solar

All 23 sector guides

Oil, Gas and Power	$15.1bn	Wastewater and Reuse	$946m
Tourism	$13.8bn	Nuclear Energy	$835m
Urban Development	$12.8bn	Agriculture and Food	$400m
Green Hydrogen	$10.6bn	Solar Power	$326m
Transport	$8.1bn	Digital and AI	$243m
Water	$6.7bn	Circular Economy	$189m
Fertilizers and Chemicals	$6.5bn	Wind Power	$186m
Ports and Logistics	$3.6bn	Pharmaceuticals	$128m
Manufacturing	$2.4bn	Creative Industries	$47m
Storage and Grids	$1.4bn	Defense	$10m
Mining and Minerals	$1.2bn	Education and Skills	$7m
Health	$986m		

Every sector guide can be read and downloaded at www.JordanPPP.com/sectors.

ARTIFICIAL INTELLIGENCE

AI designs, structures and runs it

A PPP takes about seven years from concept to financial close and costs roughly 10% of capex to structure. Almost all of that work is documents and models, which is the work AI does well.

What changes

When the cost of intelligence approaches zero, the cost of preparing a project falls with it. Feasibility studies, options appraisals, cost plans, risk matrices, financial models and tender documents can be produced and tested in days, and contracts can be drafted and stress-tested in hours. PPP projects will soon appoint an AI technical advisor alongside the human ones. Once an asset is running, the same intelligence operates it: a digital twin models the asset in real time, sensors report wear and faults early, and maintenance follows the data.

Jordan arrives late to PPP software, and that is an advantage. With few legacy systems to migrate off, AI-native tools can be built from the ground up, and the reasoning behind each decision can be captured inside the transactions being structured today.

What it means for family offices

AI lets a small investment team review a PPP as thoroughly as a large fund. A family office can test a financial model, read a concession agreement and its schedules, and compare a deal against similar projects in hours, which makes direct and club investing possible without a large staff. Once the asset is operating, digital twins and sensors give the family live data on how its holding performs.

What will be built

Project preparation	Software that turns feasibility studies, cost plans and tender documents into a repeatable process, so the years spent before tender shrink to months.
Procurement	Tools that let ministries compare bids on whole-life cost and deliverability.
Cost estimation	A national benchmark database that prices every project against real Jordanian rates.
Contract intelligence	Assistants that read, compare and answer questions on every contract, drawing and instruction on a project in plain language.
Asset monitoring	Sensors and digital twins that tell an operator what will fail before it fails.
Permits and approvals	Digital workflows that replace the paper trail across ministries, municipalities and utilities.

ROBOTICS

Robots build it and keep it running

Most of the $500 trillion of infrastructure due over the next fifty years will be built by machines, and people will design, train and supervise those machines.

What changes

Autonomous software combined with autonomous machines produces autonomous infrastructure. Tunneling machines, construction robots, drones and modular factories already raise structures with far fewer people on site. The machines then stay with the asset: drones inspect bridges and power lines, robots travel inside pipes to find leaks, and cleaning robots keep solar fields at full output.

Robotics also changes who can compete. A small company with the right machines can build what once needed a thousand-person contractor, and it can prove its method on a pilot before anyone asks for a track record, which opens PPP work to new companies for the first time.

What it means for family offices

Robotics lowers the cost and the risk of building and running the assets a family owns. Projects that use automated construction finish closer to schedule, and drones and maintenance robots keep operating assets performing for longer. The companies that make those machines are also candidates for the family's own venture investments, so the family can own the technology as well as the asset.

What will be built

Water networks	Robots and acoustic sensors that find leaks inside the network, in a country that still loses about 41% of its water to leaks, theft and faulty meters.
Construction	Modular methods, on-site automation and quality verification suited to Jordan's labor market.
Inspection	Drones and crawlers that survey roads, bridges, rail, power lines and pipelines and report defects automatically.
Energy	Robotic cleaning and maintenance for solar fields, and retrofit technology for public buildings, street lighting and water pumping.
Mining	Autonomous drilling, haulage and drone surveying for phosphate, potash and new mineral projects.
Ports and logistics	Automated handling, yard robotics and drone delivery for Aqaba's terminals and Jordan's dry ports and border crossings.

TOKENIZATION

Tokenization finances it and opens its ownership

A PPP absorbs capital over four years and releases it over thirty. Today's investors expect to enter and exit easily, and tokenization gives them that option.

What changes

A concession is a long-dated, contracted, inflation-linked cash flow, the kind of asset a token represents well and an ordinary investor has rarely been able to hold directly. Tokenization lets a small pilot be funded by a few hundred investors, with returns paid automatically from the asset's own revenue and no lender between them.

The rails already exist in the region. ADGM regulates tokenized securities, the Dubai Land Department records tokenized title deeds on its own register, and Jordan adopted a national Blockchain Technology Policy in December 2024. Tokenized concession revenues are still rare, so the first tokenized PPP in Jordan is open to whoever builds it.

PPP companies will be tokenized before PPP projects, because a developer already gathers projects, risks and revenues into one entity. People will own the builders first, then the portfolios, then the projects, and at the end of that sequence sits a stock exchange for the physical world.

What it means for family offices

Tokenization suits the way families hold wealth. A family office can hold tokenized notes in an operating PPP, receive revenue through smart contracts as it arrives, sell small portions when it needs liquidity and divide a holding among heirs without breaking up the asset, which makes infrastructure as easy to pass on as any other investment.

What will be built

Issuance	Compliant token issuance for PPP companies, infrastructure funds and small pilots.
Investor onboarding	Identity checks, suitability and custody built for Jordanian and regional investors.
Revenue distribution	Smart contracts that pay holders from tolls, tariffs and availability payments as the money arrives.
Registries	Shared records of contracts, milestones and asset performance that every party can trust.
Secondary markets	Venues where holders can buy and sell stakes in operating infrastructure.
Citizen participation	Tools for citizens to propose projects, vote them up and invest small amounts in what gets built.

SMALL PPPS IN PARALLEL

A thousand small PPPs teach more than one large one

The World Bank counted 315 private infrastructure projects reaching financial close across all low- and middle-income countries in 2024, only a few per country. No country can learn quickly at that pace, and each lesson arrives years after the technology behind it has moved on.

Each of those projects is too large, too slow and too expensive to try anything new on, and every approval, guarantee and stakeholder on a $1 billion project pulls it toward the way things were done before. Small projects are where a new idea can afford to be wrong, because the downside is small, the learning cycle is fast and the bureaucracy is thin.

Run them in parallel

Software has already moved from building one idea at a time to building ten at once, and infrastructure can follow. Picture 100 small schools built within six months, each delivered through its own PPP and each testing a slightly different legal structure, financing model, construction method and operating approach. Performance data arrives quickly, the models that work are copied, the weak ones are retired early and policy improves with every round, so a thousand small projects teach a country tens of thousands of lessons where one large project teaches a few.

$10M	spent preparing a single $100 million PPP, enough to build 100 pilots at $100,000 each
780	small PPPs a year in Jordan at $100,000 each, from 1% of the budgets of its 40 contracting authorities, about $78 million, in a country that closes only a handful of PPPs a year today
97,500	small PPPs a year if every country ran 500 at $100,000 each, for $9.75 billion, less than the price of one metro line

The PPP singularity

The PPP singularity is the point at which it becomes cheaper to build the pilot than to conduct the study. One feasibility study can make a project look feasible, another can make it look unfeasible, and the decision still comes down to judgment, while a pilot settles the argument with evidence. Governments that work this way become portfolio managers of experimentation: they set the objectives and the guardrails, standardize contracts that can adapt, collect the data and publish every pilot, every cost and every failure on one public website.

PPP RESEARCH LABS

Pilots need somewhere to live

PPP innovation needs the public and private sectors working together, so each lab is built the way a PPP is built: the public sector spearheads it and the private sector designs, finances, builds and operates it.

One lab per sector	Water, power, transport, aviation, health, education, agriculture, digital, tourism and urban development each get a lab inside the ministry or authority that runs the sector.
A one-line brief	Run ten small PPP projects a year at up to $100,000 each, testing new technologies, new PPP frameworks, new construction methods and new financing structures.
A PPP itself	The ministry tenders the lab, and private companies bid to design, finance, build and operate it with their own capital, effort and technology.
Funding	About $1 million a year per lab, found by moving 1% of an authority's budget away from inefficient spending. Ten labs can run a hundred experiments a year on a modest budget.
Open results	Every result is published as it happens, including the failures: what worked, what failed and what the contract should have said. The lessons go straight into the large PPPs already running and the ones still to come.
Room to explore	Labs carry no fixed deliverables, because predetermined outputs defeat the purpose of research, and they are judged on engineering results.

Who builds and who funds

Small projects open PPPs to founders and small companies. On a large concession a bid costs 3% to 5% of capex, prequalification asks for a decade of comparable projects and performance bonds run to tens of millions. AI cuts the bid cost, robotics cuts the crew a project needs and tokenization lets a few hundred investors fund a pilot, so a small PPP moves at the speed of the founders running it. Venture capital funds the technology, infrastructure funds finance the assets, and a $10 billion fund raised by both, deploying $2 billion in its first year, could back 20,000 small PPPs, about 100 in every country.

What it means for family offices

Small PPPs come in tickets a family office can hold directly. A Jordanian family can back a lab, take stakes in a portfolio of pilots across several sectors and follow on into the technologies and project companies that prove themselves, with returns paid from each asset's own revenue.

UNSOLICITED PROPOSALS

Jordanian law accepts unsolicited PPP proposals

Any private company can take its own PPP idea to government. Article 15 of PPP Law No. 19 of 2023 lets a proposer submit a direct proposal to the Ministry of Investment or a public authority, and PPP Regulation No. 9 of 2024 sets out how it is assessed.

How a direct proposal works

Conditions	The proposal offers an innovative solution for a public service, is prepared on the proposer's own initiative, gives value for money, fits government programs, covers the government's obligations from project revenues and discloses any conflict of interest.
Contents	The scope, the proposer and its experience, a pre-feasibility study with the innovation and intellectual property behind it, the fiscal implications and any support or guarantees sought, and the cost of preparing the study.
Review	A public authority or municipality that receives a proposal refers it to the Ministry, which has 60 days to take it up for study or return it unopened, and can charge a study fee of at least $7,050.
Registry	A qualifying proposal is listed as a PPP project in the national registry of public investment projects, and one that falls short is rejected.
Tender	If the project goes to tender, the proposer can match the best offer, and if another bidder wins, the winner repays the proposer's direct study costs.
Small projects	Projects with a capital cost below $14.1 million are small-scale PPPs, and similar ones can be bundled into one feasibility report and one tender under simpler procedures.

Limitless ideas

This is the Swiss Challenge approach: the proposer brings the idea, the market competes on it and the proposer keeps the right to match the best offer. Many of the projects in Jordan's $86 billion pipeline are still early enough for a partner to shape the deal or bring its own idea, and a direct proposal can be as large as a mini city built and operated under one contract or as small as a $100,000 pilot. The PPP research labs can be proposed the same way, and every company with an idea for a public service becomes a possible project sponsor.

What it means for family offices

A family office can sponsor a direct proposal of its own, choosing a project it believes in and the partners to deliver it. The proposer's right to match the best offer and to recover its direct study costs at tender protects the family's early investment in the idea.

WHY FAMILY OFFICES

Family offices can move first and hold for generations

A PPP needs equity that can commit early, accept a long horizon and stay through the whole concession. Family offices decide quickly, set their own horizons and think in generations, which fits the way PPPs are built.

Where family offices fit in a PPP

Club deals	Equity shared among a few families and institutions, each with a meaningful stake and a voice in the project.
Sponsor equity	A seat in a consortium beside a developer, contractor or operator from bid to operation.
Small-scale PPPs	Projects below $14.1 million that a family can lead, or bring to government as a direct proposal under Article 15.
Operating stakes	Shares in completed projects with a revenue record, bought from sponsors who want to recycle capital.
Tokenized notes	Small, divisible holdings in operating PPPs that pay from the project's revenue and pass easily between generations.

What changes for family offices

AI, robotics and tokenization bring PPP within reach of a small investment team. AI tools let a family office review a concession agreement and a financial model with the depth of a large fund, and sensors report how each asset performs. Robotic construction and maintenance reduce the surprises that worry a minority investor, and tokenized notes let a family hold, divide and pass on infrastructure in small, flexible amounts.

Why a program, and why now

Without a program, a family office sees PPPs only when a deal is offered to it, often late and on terms that others have set. A program gives the family a mandate, partners it trusts and a pipeline of its own, so it can choose its projects and shape the terms. Jordan's pipeline is large and early, and the families who join consortiums as they form will own a share of the country's infrastructure for decades.

THE PROGRAM

How the program could work

The program can start with a mandate and a small team inside the family office, and grow with each deal it closes and each partner it adds.

Mandate	A clear statement of the family's role in PPP, its target sectors, its ticket sizes and the horizon it is willing to hold.
Team	A program lead and a small team drawn from the family's investment staff, supported by outside advisors on the first deals.
Partners	Developers, contractors and operators with a track record, and other families and institutions for club deals.
Small-scale PPPs	A route to small projects below $14.1 million and to the family's own direct proposals under Article 15.
Club deals	Standard terms for co-investing with other families, so each new club forms faster than the last.
Tokenized notes	A pilot holding of tokenized notes in an operating PPP, structured so it can pass to the next generation.
Next generation	A role for younger family members in sourcing, monitoring and governing the program's projects.

What the family gains

The family gains long-dated assets backed by contracted revenue, a seat in consortiums beside the developers and operators that build the region, and a portfolio that reaches beyond the markets it already holds. Each project brings partners who can offer the family the next one.

It also gains a legacy that its heirs can carry forward. Infrastructure serves the public for generations, and a family that helps build it leaves its heirs a holding with a purpose, a network across the region and a head start in the next form of infrastructure ownership.

ABOUT

Jordan PPP

Accelerate Jordan
Accelerate the infrastructure singularity
Accelerate the Jordan PPP singularity

AMMAN, JORDAN WWW.JORDANPPP.COM

Jordan PPP helps every kind of organization in Jordan launch a public-private partnership (PPP) program of its own. It publishes 96 guides, one for each kind of organization, from the Royal Hashemite Court and Parliament to banks, contractors, universities, humanitarian organizations, companies in twenty-one sectors and organizations in twelve governorates.

Its vision is the infrastructure singularity, when roads, grids, ports and water networks become one globally connected, superintelligent computer, built by robotics, run by artificial intelligence and financed by tokenization. Rebuilding and running the world's infrastructure will take about $500 trillion over the next fifty years.

Its method starts small: a PPP program for every organization, small PPPs run in parallel, a research lab in each sector and direct proposals under Article 15 of PPP Law No. 19 of 2023, starting with Jordan's $86 billion and Aqaba's $46 billion of projects.

JORDAN PPP

What Jordan PPP offers

The guides

One for every organization

96 guides, each with the case, the program and six first steps.

www.jordanppp.com/guides →

The summary

All guides in one document

Every guide, its organization and its ask, in one place.

www.jordanppp.com/summary →

Futureproofing

AI, robotics, tokenization

What the three technologies change for every organization.

www.jordanppp.com/futureproofing →

The opportunity

$500 trillion

The $500 trillion PPP infrastructure opportunity, from the crisis to the exchanges.

www.jordanppp.com/opportunity →

NEXT STEPS

How a family office can start

Any family office in Jordan can take this guide forward. The first steps use the capital, advisors and relationships the family already has.

Mandate	Family council approval for a PPP co-investment program, with its sectors, its ticket sizes and its first-year allocation.
Team	A named program lead, with the investment, legal and technical advisors the family already trusts.
Pipeline	A map of Jordan's $86 billion of projects by sector and stage, with the club deals, operating stakes and small-scale PPPs open to co-investors.
Structures	Holding structures for direct stakes, club deals and tokenized notes, set up once and reused on every deal.
Partners	Trusted developers, banks and infrastructure funds to co-invest beside.
Pilot	A first co-investment in a small-scale PPP or a lab pilot, taken from idea to signing.

Jordan has the projects, the developers and a law that lets a private investor propose its own projects. A PPP program gives your family office a share in building the superintelligent infrastructure future and a legacy that lasts as long as the assets do.

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