



APS ENGINEERING

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APS is a company founded to be knowledge leaders in the transportation sector focussing on pavement technology and aviation. APS has a client centric business model that gives us the ability to deliver the full range of services across the African continent. We create best teams for our key clients, develop strong client relationships and deliver market leading solutions.

Our clients benefit from our collaborative business model as it nurtures the development of market leading expertise across their industries. Our technical professionals develop business advantage for our clients based on deep understanding of the industries in which they operate.

APS' values form the foundation of our commitment to our client relationships; our promise to our people; and the contribution we make to the communities in which we live and work. We aim to set industry standards, benefit communities and make a significant contribution throughout the developed and developing world.

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WHO WE ARE

Aviation & Pavement Solution Principal Members

APS' principal members have over 20 years' experience in the design and construction of transport infrastructure. Having worked in small consultancies to major global engineering groups and listed construction companies, provides APS with unsurpassed experience through the total value chain of infrastructure provision, from concept development through the design and construction phases to final commissioning and operation.

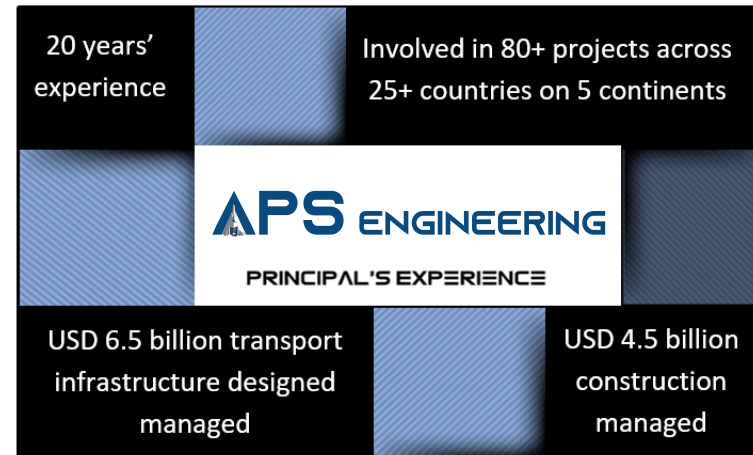
Bruce Morton

Construction and Engineering Executive

Bruce Morton is an experienced Construction and Engineering Executive. As an Internationally Professionally Registered Engineer, he holds numerous qualifications including a Masters Degree in Transportation and Traffic Engineering from the University of California in Berkeley, USA.

Mr Morton is a transportation and engineering specialist with extensive experience in project management and construction management, airport, road and rail design, traffic engineering and transportation planning in all modes of transport, transportation engineering and specialist auditing.

He is proficient in airport and road design, airport pavement rehabilitation and construction, road pavement design (paved and gravel), road construction, highway and airport design, interchanges and overpasses, problematic soils (dolomitic and collapsible) and rehabilitation through in-situ recycling.



Heiner Müller

Civil Engineer - Project Management

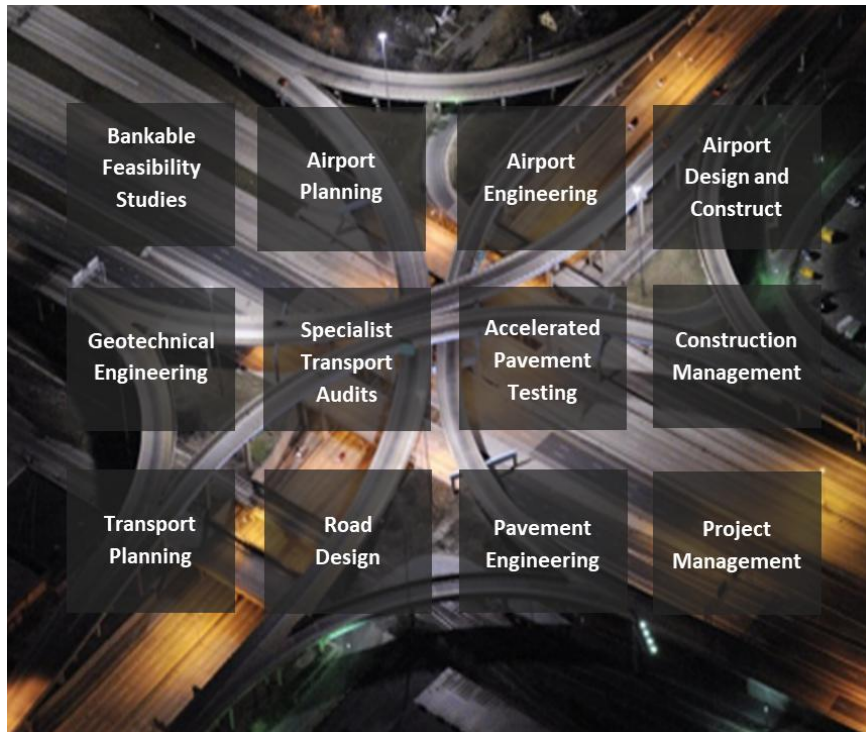
Heiner Müller is a Professionally Registered Engineer Eng. specializing in geometric design of civil infrastructure. Heiner has over 15 years' experience in the geometric design and modelling of roads, airports and earthworks. He has an in-depth knowledge of Civil 3D which is utilised to complete complex modelling scenarios.

Heiner is proficient in project management, conceptual, preliminary and detail design, preparation of detail drawings, schedule of quantities, documentation and compiling of tender bid documentation and site supervision.



SERVICES AND FOOTPRINT

World-class infrastructure networks are critical in encouraging business innovation and improving the global competitiveness of our industries. To this end APS focusses on the provision of aviation, road, rail and maritime related infrastructure for both private and public clients.



Aviation Solutions

APS undertakes planning, design, project management, construction supervision and maintenance and full design and construct services of airside and landside facilities at airports and airfields including support facilities. APS's principals have completed the planning, design and construction of runways, taxiways and aprons involving flexible, concrete and interlocking concrete block pavements at a variety of airports, airfields and air force bases worldwide.

These projects include “greenfield developments”, extensions and upgrades in addition to rehabilitation and maintenance of airside facilities.

FOOTPRINT

Our expertise is wide ranging having acted as either client, engineer and contractor on various projects throughout Sub-Saharan Africa. Our experience extends to projects in Australasia, Middle East, and the Americas. We service our clients from offices in United States of America and South Africa.



APS adheres to the specifications and requirements of the International Civil Aviation Organization and the applicable local civil aviation standards for all airside elements. Design aircraft for these facilities include a variety of major commercial and military aircraft including A400M, A380, A340 and B747 with maximum weight up to 555 tonnes, single tyre loads up to 25 tonnes and tyre pressures up to 1,500 kPa.

APS provides, through our partnerships with international airport consultants, landside design of terminals, hangars and storage facilities in addition to the design of ancillary services such as airfield ground lighting and ICAO critical facilities including Air Traffic Control Towers.

Project and Construction Management

APS is equipped to render an all-inclusive supervisory service during the design and construction phase of a project and ensures that resources are focused on optimising costs while minimising risk.

APS' principal members possess unique competency in project and construction management having held senior management roles in both major international consultancy and construction companies, respectively. Striving to meet clients' quality, delivery and performance expectations, APS utilises its considerable managerial, organisational and planning skills to build mutually beneficial relationships between all parties involved. APS provides the following capabilities to our clients:

Project management throughout project lifecycle from pre-feasibility through to commissioning of infrastructure

- Construction Monitoring
- Construction Management
- Review and Assessment of Contract Claims

Road Consulting Engineering Services

APS provides a comprehensive road consulting engineering service, extending from problem and opportunity identification and preliminary studies through to detailed design, project implementation and commissioning.

APS specializes in all sectors of road transport from low volume gravel and surfaced roads in rural and developing areas, residential streets and access roads, to freeways and interchanges

Competencies include:

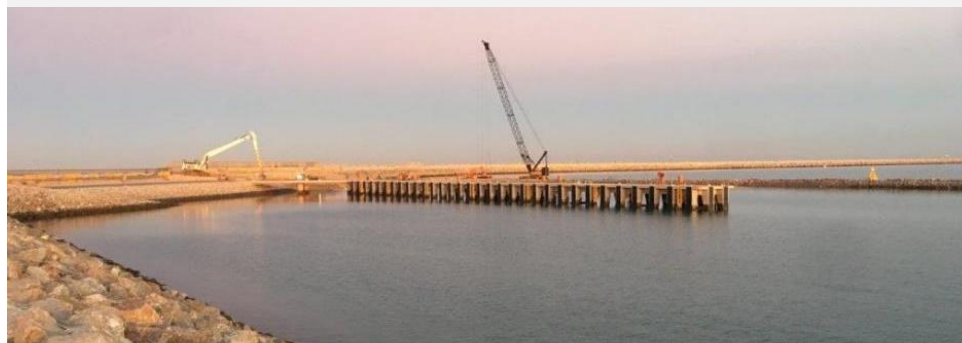
- Feasibility studies to determine the need and optimum location of road infrastructure
- Basic planning, detailed design, documentation and tender management of road infrastructure

- Administration and supervision (monitoring) of construction and rehabilitation works
- Independent Engineer, Bankable Feasibility Studies and specialist consulting services on Toll Roads
- Pavement evaluations to determine short and long term strategies relating to maintenance, betterment or reconstruction options
- Design and implementation of pavement management systems of gravel and surfaced road networks
- Preparation of road maintenance contract documentation and administration of road maintenance contractors
- Economic evaluations of alternative pavement strategies
- Planning and training of the work force and construction administration of labour-enhanced construction projects
- Evaluation and scheduling of road maintenance requirements

Rail & Marine Solutions

APS specialist skill in materials engineering and structural evaluation of pavements and layer works provide the company with specific competencies for the assessment of railway founding conditions and marine platforms.

Combined with the expertise in Aviation and Roads, APS is able to provide a holistic solution to the design and construction of intermodal facilities utilising either flexible, rigid or segment block pavement systems.



SUSTAINABILITY & INNOVATION

APS IS A FOUNDING MEMBER OF B2SQUARE

First truly sustainable biobitumen

B2SQUARE - a partnership between ALBR3CHT Supply Concepts GmbH and APS Engineering Solutions with Ventraco. B2SQUARE provides sustainable, alternative technologies to the bitumen industry's environmental challenges. Our aim is to provide a viable and sustainable alternative to fossil fuel dependency while decreasing greenhouse gas emissions.

Combining over half a century of experience across five continents throughout the asphalt construction value chain. The Team first collaborated together to develop and successfully implement the Technix Bitumen Reactor within SprayPave in South Africa. The formation of B2SQUARE is the culmination of a shared vision and approach to provide tailor made bitumen, aligned to current sustainability initiatives.

Our bitumen made of natural resources is independent from oil refineries, gets transported and applied cold, is 10x more durable than classical bitumen and stores more than 1.516 kg CO₂ per 1.000 kg bitumen.

Let's change the game

Here's why the Society for Asphalt Technology calls us *Industry disrupters.*



Adjustable ratio

The ratio of asphaltenes and maltenes can be set precisely to the intended penetration or softening point.



Repeatable quality

The made to measure technical properties result in an unprecedented, repeatable bitumen quality.



Higher Safety

Most bitumen accidents are related to the high temperatures during transport – and are significantly reduced with our cold mix.

Let's pave the road
to net zero.

Get in touch 



After years of development and testing our instant bitumen is shipping at scale.
This was our pilot project:



The Challenge

A client required the production of 300 tons of asphalt for a paving operation utilising 85% Recycled Asphalt Pavement (RAP) containing a residual bitumen content of 3.7%.

In essence „produce only 300 tons of specialised material from a current standard operational asphalt plant while simultaneously doubling the RAP content above what is considered the upper RAP % in standard practise.“

Our Solution

Together with MHI AG we produced a surface course asphalt (0/16) with 85% Recycled Asphalt Pavement containing 3.7% of aged binder with 15% of virgin aggregate and 1.5% Instant Bitumen.

The results

1. RAP asphalt meeting exacting client requirements with no modification of asphalt plant
2. Reduced carbon emissions by half compared to conventional asphalt
3. No waste
4. No heated bitumen product to transport and handle
5. Flexibility of application properties not just application quantity



SHOWCASE PROJECTS

Cheddi Jagan International Airport Terminal Expansion Project, Guyana, 2023- present



Client: Mowlem International for The Cooperative Republic of Guyana

Description: Development of a 4-phase expansion program for the expansion of the airport. Includes the construction of a 15,000 m² new arrivals terminal, relocation of Air Traffic Control Tower and Fire Station, reconfiguration of existing terminal into arrivals terminal, provision of two new aerobridges and 2 Code E apron stands and construction of construction of a Cargo Handling Facility.



The new terminal facility will provide direct access to the existing terminal landside as well as airside access through the existing concourse. The new terminal will provide large commercial retail facilities and incorporate newest processing technology including biometrics and full body scanning.

Construction Value: Total value : 200 million estimated. Phase 1 – USD 80 Million

Role: Overall project management inclusive of design, financing and construction management

Finance, Design and Construction of the Tema – Aflao Road – Phase 1 | Ghana, 2018 - date



Client: BHM International UK

Description: Design and Construction of a new 167 km 6-lane expressway extending from Accra to the Togo border. Design includes interchanges and 2 lane service roads within urban regions in addition to the construction of a new drainage system and 30 bridges. Major bridges include the 600 m bridge over the Volta river and the viaduct extending across the Lome estuary. APS provided overall technical and design management services, costing and programming works and overall concept development for the project

Construction Value: USD 1.25 billion (total), Phase 1 - USD 220 million

Role: Project Manager and Specialist Pavement Engineer





Rebuilding of Waterkloof Air Force Base | Gauteng, South Africa, 2006 - 2013



Client: Department of Public Works

Description: The airport was upgraded to international standards for continued future operational use for a period of 30 years. The design included all airside movement areas and services including a new hangar facility, Air Traffic Control Tower and Fire Station. The geotechnical design included dynamic compaction and the construction of largest fully instrumented raft foundations in Africa to mitigate dolomitic soil conditions and sinkhole formation.

Construction Value: USD 330 million

Role: Consortium Leader for Design Phases, Contract Engineer for Construction Phase

Kumasi International Airport – Phase II and III | Ghana, 2018 - date



Client: Nurizon International

Description: The development of a new terminal facility and associated improvement to the airside infrastructure at the Kumasi International Airport. The airside scope of works includes runway extensions and strengthening, runway strip construction, taxiway and apron construction, new drainage system, security fencing and upgraded airfield lighting system to compliment the new 10,000 m³ terminal facility.

Construction Value: USD 75 million

Role: Pavement Design Specialist and Project Management

Waterkloof Air Force Base - Airbus A400M Strategic Airlift Facility | Gauteng, South Africa, 2006 - 2013



Client: Department of Public Works

Description: The project scope entailed the development of the complete squadron facilities and hangars, aprons and taxiways for the Airbus A400M Strategic Airlift Facility. The project included the design, tender documentation, project management and supervision of the construction of 2 main maintenance hangars, 2 minor maintenance hangars and 4 storage hangars (each hangar 65m length x 65m width x 24m height) and logistics, operations and maintenance buildings for the new squadron.

Construction Value: USD 151 million

Role: Consortium Leader

Upgrading of Road R23 – Greylingstad to Platrand | Mpumalanga, South Africa, 2013 - 2015



Client: South African National Roads Agency

Description: Upgrading of the rural road R23 over a distance of 65 km. The upgrade includes the strengthening of the existing pavement, widening and provision of climbing lanes, vertical realignment of road sections, reconstruction of 6 bridges and widening of 13 major drainage structures. Surfacing consisted of modified asphalt concrete designed for ultra-heavy loads.

Construction Value: USD 92 million

Role: Managing Director

Rehabilitation of TR 31 from Ashton to Montagu | Western Cape Province, South Africa, 2015 - 2017



Client: Western Cape Government, Transport and Public Works

Description: The project entails the complete rehabilitation of the Cogmans Kloof Pass from Montagu to Ashton. The works include 13.4 km of new roadworks, 3 major realignments requiring significant blasting operations, 4 bridge structures and the new Ashton Cable Arch Bridge of over 100 m length and mass of 6,500 tons. The accommodation of traffic requires the construction of the bridge off-centre which will be jacked into position on the final alignment as one of the final phases of the project.

Construction Value: USD 55 million

Role: Executive Officer/Managing Director

Port of Ngquru Construction of Admin Craft Basin | Eastern Cape, South Africa, 2015



Client: Transnet Capitol Projects

Description: The project was for the construction of a new admin craft basin including breakwater, finger jetty and administrative buildings platform. Works include the dewatering of the portion of the bay through use of the breakwater and GSR membrane followed by mass excavation and reflooding of basin.

Construction Value: USD 30 million

Role: Managing Director





St Helena International Airport, St Helena, 2013 - 2016



Client: DFID UK Government

Description: Design, build and operate contract for the construction of new airport on St Helena Island. Major works include 27,000 m² of concrete paving, 8 million m³ of rock fill, a 4,000 m² airport terminal, and 6 million litre bulk fuel installation. During the construction process over 70,000 tons of goods and equipment was shipped from Walvis Bay to St Helena

Construction Value: USD 425 million.

Role: Pavement Design Specialist

Construction of Redhouse Chelsea Interchange | Eastern Cape, South Africa, 2014 - 2015



Client: South African National Roads Agency

Description: The project scope was for the construction of a new interchange to facilitate access from the national road network to the adjacent community and developments including a new shopping mall. Works included the construction of 5 major bridges, frontage roads, access roads, pedestrian facilities and associated services.

Construction Value: USD 30 million

Role: Managing Director

Conceptual Design of the Relocation of Tete International Airport | Tete, Mozambique, 2014 - 2015



Client: Rio Tinto

Description: The project included the conceptual design of the relocation of Tete International Airport. Facilities to be relocated included all airside facilities with extensions to runway and taxiways to accommodate Code D aircraft. Landside facilities designed included all bulk services, ICAO buildings, access roads and new passenger terminals and parking facilities.

Construction Value: USD 170 million

Role: Project Director

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