



# GFPA

FOUNDATION



REPORT

2017 - 2019



Hillary Rodham Clinton

We know when girls have equal access to quality education in both primary and secondary schools, cycles of poverty are broken, economies grow, glass ceilings crack, and potential is unleashed.



## FROM THE FOUNDER'S DESK

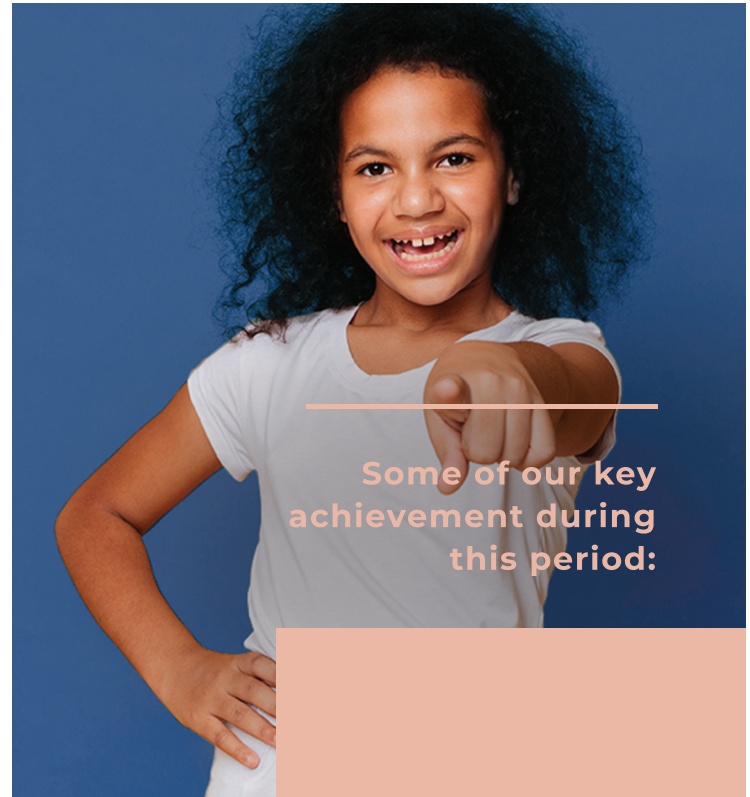
The 2017 to 2019 period was exceptional for the foundation. For the past few years, GFPA operated under Southern African women in the aviation and aerospace industry (SAWIA). GFPA was initiated to create a platform that educates girls about aviation and aerospace at a grass-roots level. We wanted to empower them with information and access to other women in the field addressing one of the enablers of gender equality in the STEAM field. With the success of GFPA, our focus shifted from SAWIA, and we registered GFPA independently as a non-profit company (NPC) and public benefit organisation (PBO). We moved from focusing on aviation to Science, Technology, Engineering, Arts, Mathematics (STEAM) with a focus on aviation and space technology.

Our notable achievements:

- ✈️ Our offices being sponsored by Grand central airport.
- ✈️ Our aviation and space camp featured by BBC as one of the 8 innovators in Africa.
- ✈️ We partnered with the Airbus Foundation to offer robotics space workshops throughout South Africa.

## MY SINCERE GRATITUDE

I would like to take this opportunity to express my sincere gratitude: to the team; to our many selfless volunteers - for not only buying into the vision but ensuring it has become a reality; the Board of Advisors for their continued support; the Companies; Organisations and individuals mentioned in this report have all donated or volunteered their time and contributed to the success of the 2017-2019 programme particularly the aviation and space camp.



## PROGRAMME'S REVIEW

### Aviation and Space Camp

The foundation hosts an aviation and space camp each year. During the aviation and space camp, the learners use design thinking and technology to invent, build and present solutions to current challenges in the aviation and space industry. The objectives of the aviation and space camp are:

- ✈️ Create an environment where learners from diverse backgrounds, with a common interest in aviation and space, can meet and engage.
- ✈️ Provide a fun, yet educational programme, allowing the learners to discover more about aviation and space opportunities.
- ✈️ Encourage learners to pursue STEAM-related careers.

We hosted 100 learners (80 from South Africa and 20 from Botswana) for the five days aviation and space camp. The camp was featured on BBC as one of the 8 innovators in Africa.

<https://www.bbc.com/news/av/business-44852500>



1

### Day 1: Theme: - Taking flight

Few learners had the opportunity to spend the day at Grand Central airport. The day started with an Aerodynamic lecture, A pre-flight to the Aeroplane and an introductory flight in both the C172 and the simulator.



2

### Day 2: Arrival of Campers in Magaliesburg

Learners arrived from all corners of South Africa and Botswana to attend the camp. For most of the learners, it was their first flight. A big thank you to FlySafair, SA Airlink and Air Botswana. This was followed by registration, introductions. Day 2 closed with a beautiful bonfire, all the girls singing and bonding with their group.



3

### Day 3: Personal development and introduction to aviation.

The morning session started with wonderful speakers inspiring the girls. The speakers included Dr Caroline Belrose, Baveesha Naran, Phathutshedzo Mabogo, Aurelia Nxumalo and Capt. Sakhile Reiling. A very inspiring session that set the tone for the entire camp.

For the afternoon session, we had the girls building and flying pink paper planes sponsored by the Aeronautical Society of South Africa (AeSSA). They then looked at more complex designs, delta darts sponsored by The Aeroclub South Africa T&D. With the simulator on-site provided by Wits University, the girls also started with simulator flying.

The evening ended in a cultural event where the girls presented about each other's cultures and tasted different traditional food.



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### Day 4: - Design thinking

The morning sessions covered the principle of design thinking presented by Girls invent tomorrow (GIT) and Ladies that Lux Johannesburg (LTUX). The girls got to design a solution for settling and building a city on the moon. They went through a process of understanding the design challenge, framing the challenge, sketching, and prototyping. They ended the day with the presentation. During the evening, the learners watched the movie "Hidden Figures".





### Day 5: - Technology

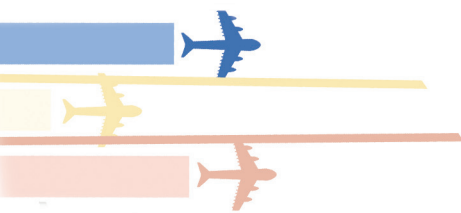
The learners had an opportunity to learn about emerging technologies such as 3D printing, a big thank you to SIGNAL for the 3D printer and a demonstration to the girls. They then moved on to robotics, coding, and micro-bits. What a fun day for the girls. The tech session was presented by Girls invent tomorrow (GIT) and Ladies that Lux Johannesburg (LTUX). The day closed with a prize, farewell dinner, prize giving session and a panel discussion. The girls had an opportunity to ask any questions about the industry to the panellist



### Day 6: - Career Expo

The camp ended on a high with a career expo. The girls had an opportunity to interact with different companies. The girls had an opportunity to learn about emerging technologies such as drones. A big thank you to our exhibitors, The South African Civil aviation Authority (SACAA), South African Airways Technical (SAAT), Wits University, National Aerospace Centre (NAC), Rocket mines, Century Avionics, SMAB aviation and Neo Heights.

# 7 DEPARTURE



## FLY FOR STEM AFRICA CAMPAIGN

The "Fly for STEAM" Africa campaign is aimed at exposing and encouraging girls to consider careers in the STEAM field with a focus on aviation and space. During the campaign, weather permitting the team flies around the continent in a small aeroplane, to reach 500 000 girls in Africa. If the weather does not allow, the team uses commercial airlines or drive to the areas. Girls need to see real female role models who participate in the STEAM subjects. Loss of female interest in the STEAM field can be partially halted by simply exposing girls to other women who are in the field. We had a successful fly for STEAM Africa campaign in SA and Botswana.

### Botswana

GFPA foundation team attended the Women of Aviation Worldwide (WoAW) week 1000 pink paper challenge and career workshop at Mopane village organised by the Dare to dream hub in Botswana "WoAW is a global outreach initiative that takes place annually during the week of March 8, the anniversary date of the world's first female pilot license since 1910 and International Women's Day since 1914. The week aims to raise awareness of aviation opportunities among girls of all ages while celebrating the accomplishments of past and present women of aviation ".Two GFPA foundation team members flew to Botswana to attend the event.





### Bethlehem Airfield

GFPFA foundation attended an outreach programme at Bethlehem Airfield. The day started with introducing learners to basic aerodynamics, showed them different controls of aeroplanes and helicopters, a presentation about emerging technologies in aviation, a presentation about drones and paper planes competition. Some learners had an opportunity to go on to their intro flights. Their task for the day was to research drones and practical applications in their communities!!! A big thank you to the Aeronautical Society of South Africa (AeSSA) for providing different design paper planes. A big thank you to the South African Civil Aviation Authority (SACAA) for providing information brochures for the event.

## AVIATION AND SPACE WORKSHOPS AND OUTREACH

### Airbus Little Engineer robotics space workshop

Beginning of 2019 we partnered with Airbus Foundation and the little engineer to offer space technology workshops. "The Workshop is offered by Airbus Foundation for learners aged 11+ in the MENA region and now in Africa, to instil in youth the passion in STEM, as well as space and the industry behind the space". This workshop aims to introduce the students to the world of robotics generally and especially the space industry. The students were acquainted with the Ariane 5 rocket covering its design, and abilities. The workshop explained the whys and the how's of reaching Mars using top-notch technologies in power, telecom and space rockets ". By end of April, the team has travelled to various schools in Gauteng, North West, and Northern Cape to conduct the workshops.

### GFPFA Foundation visit to SA Airforce museum: Zwartkops air force base

The GFPFA foundation 2017/2018 cohort had an opportunity to visit the SA Airforce museum. They got to hear about the history of the SAAF from the Pilots, crew and people that flew and restored the aircraft. The day started with an awesome, technical lecture about the Spitfire restoration. A big thank you to the SAAF Museum, Friends of the SAAF Museum, The Aeronautical Society of South Africa for making it happen.

### Girls talk event: Durban girls' college

Founder and executive director Refilwe Ledwaba was invited to be a speaker at the Durban girl's college "Girl talk event". Theme: Success demand purpose. Refilwe shared with them her story and spoke about careers in aviation. She also participated in the prize-giving ceremony for the Grade 7 to 9 learners

### Aero STEM model aeroplane building: - Grand Central Airport

Aero STEM model aeroplane lecture and building hosted by the Aeronautical Society of South Africa (AeSSA). A big thank you to AeSSA, John Monk, Grand Central Airport and the GFPFA volunteers for making it possible.



## Women in Aviation International Girls in aviation day: Botswana

Girls in aviation day (GIAD) is an initiative of Women in Aviation (WAI) international [www.wai.org](http://www.wai.org) and take place annually. GFPA foundation Botswana was part of the programme through the WAI Botswana chapter. The girls were exposed to many facets of aviation including helicopter and aeroplane operations, Air traffic controllers, Pilots, Aircraft maintenance engineers, Firefighting etc. "Globally The fourth international Girls in Aviation Day was a huge success reaching 15,000 attendees, girls aged 8-17, around the world. Some 103 chapters and corporate members planned 98 events in 14 countries including 36 states in the U.S " Source women in aviation.

## Design thinking Aviation workshop: - Lanseria International Airport

GFPA foundation hosted 50 learners (22 on the 30th of November and 28 on the 1st of December 2017) from grade 8 to grade 12 for an aviation and aerospace workshop. The theme for the workshop was "emerging technologies" with a focus on drones. The learners were introduced to drone technology, played with aeroplane designs, and had to come up with ideas on how drones can be used to solve a challenge in their community. A big thank you to ExecuJet for the support.



## Adopt a Pilot day: - Grand Central Airport

What an awesome day at Adopt a Pilot day!!! We hosted 15 learners for a fun-filled day at Grand Central Airport. The day started with an aerodynamic lecture briefing and explained aircraft designs. The learners had an opportunity to do the following:

- Visit the airside and see different kinds of Aeroplanes and Helicopters.
- Had an opportunity to observe how a preflight is done and cockpit familiarisation.

- Visit the fire department, the air traffic control tower,
- Introductory flights in the simulator



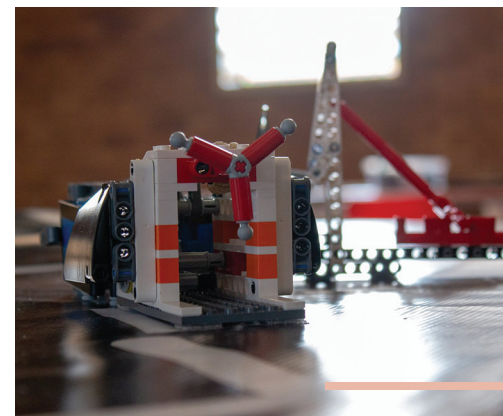
## AviaDev Outreach programme: - Gugulethu

In partnership with Aviadev and AmaQawe ngeMfundo we hosted a STEAM outreach programme at Luhlaza secondary school. A day started with inspirational talks from professionals in the aviation and space industry, followed by a paper plane challenge. Overall an inspiring day for both learners and the foundation.

## GFPA foundation visit to Washington DC

GFPA foundation had an opportunity to visit, learn and exchange ideas with the DC youth in aviation. The organisation promotes STEM education for high school learners through various programmes which include building aeroplanes, giving learners flight lessons through a partnership with local flight school and mentoring programmes. "Their first successful STEM restoration project was a 1952 Piper Pacer PA-20/135 fabric, tailwheel aeroplane. It was skinned, rebuilt, and returned to its historic state by learners. It was restored from October 2016-October 2018...two full, busy years of hard work ". "The second STEM restoration project will be a 1969 Piper Cherokee/ 140, metal skin, traditional, tri-wheel aeroplane" <https://www.dcyouthaviation.com>.

One of the highlights was meeting Mr London, the former C17 test pilot. He took us through the first C17 flight, what they did etc. How awesome that he gives back to the next generation!!! Inspired. "In June 1990, he was assigned to the C-17 Combined Test Force at Edwards and on September 15, 1991, flew as co-pilot on the first flight of the C-17, the Air Force's newest airlifter. Mr London was the first black American to fly the first flight on a new military aircraft in this country according to evaluated military records " <http://www.hj-aviation.com>





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# CONFERENCES SUMMITS AND EXHIBITIONS

## **Africa Youth Network: - Pretoria**

GFPA foundation participated in the AFRICAN YOUTH NETWORKS (AYN) SUMMIT 2018 (20-21 July 2018). "AYNM is a youth-led movement that spurs growth and prosperity, strengthens democratic governance and enhances peace and stability across the continent". You can download the summit report online from

<http://youthleadership.africa/>

Another awesome day listening to inspirational speakers Jay Naidoo, Graca Machel, Dr Reuel Khoza, Winner of the Nobel prize for literature Prof Wole Soyinka and CEO of Exxaro Mxolisi Mgoja at the AYN. Evening networking cocktail with other amazing leaders in Africa.

## **Goalkeeper's summit**

Goalkeepers are leaders who take a stand on the issues they care about and innovate in their communities to achieve Global Goals. They raise their voices, help build awareness of the Global Goals, and hold their government leaders accountable for progress. GFPA Foundation founder Refilwe Ledwaba was selected as one of the Goalkeepers and attended a summit in Johannesburg. Inspiring sessions with Tyler Perry, UN-Deputy secretary Amina J Mohammed, Mme Graca Machel among other amazing speakers. The event closed with a cocktail event, for global leaders.

## **Smithsonian Air and space museum Talk**

Refilwe Ledwaba was invited to speak at the Smithsonian National Air and Space Museum GE Lecture in Washington DC. The theme of the lecture: - "Breaking boundaries in the sky". The lecture featured aviators from diverse backgrounds sharing how they overcame barriers to become commercial pilots. Speakers included Beverly Bass, first female pilot to be named captain by American Airlines; Brad Lang, Delta Captain and son of a Tuskegee Airman". In the picture with our awesome Moderator Ass.Prof Phil Tiemeyer. The talk started with a private dinner inside the Smithsonian national air and space museum, in front of the Amelia Earhart exhibition before the GE Lecture.

## **Aviadev Summit, Cape Town**

GFPA foundation was invited to the AVIADEV summit in Cape Town. In addition to attending the summit, GFPA founder Refilwe Ledwaba moderated a panel discussion themed "Future leaders in the aviation industry". The two-day summit included a welcoming cocktail and gala dinner.,

## **Board of Aviation representative of South Africa (BARSA) Summit**

The foundation had an opportunity to attend the BARSA summit. Robust discussions on tourism, aviation, and the importance of collaboration. Presenters include the Minister of Tourism, Deputy Minister of transport, leaders, CEO of major airlines etc.

“ BARSA represents the interests of its African and International members to government, airport operators and other stakeholders in the airline industry to facilitate and further develop a safe, efficient and viable aviation industry in South Africa”.

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## **Global gender summit- Cape town**

GFPA foundation attended and exhibited at the Global gender summit in Cape Town. The South African Civil Aviation Authority (SACAA) hosted the first-ever Global Aviation Gender Summit in Cape Town, South Africa, from 8 to 10 August, to mobilize the global aviation community to accelerate gender equality in aviation. The Summit was co-organized by ICAO in close collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO) "Source ICAO. The summit was attended by Dr Phumzile-Mlambo Ngcuka, Executive Director of UN Women, Deputy Minister of Transport Ms Sindisiwe Chikunga, Dr Fang Liu, Secretary-general ICAO, and Director Civil aviation at SACAA among other dignitaries. GFPA founder Refilwe Ledwaba had an opportunity to seat on a panel for the workshop themed: - Transforming gender equality through addressing unconscious bias in the aviation industry.



## MEDIA AND AWARDS

GFPFA was featured in different media publications including BBC Africa, Forbes magazine. The foundation was also featured in a book called “Engaging the next generation of aviation professional”.

The book was written by one of the aviation academics Prof Suzanne Kearns in Canada. The foundation was used as one of the case studies in the book on how to engage the next generation.

GFPFA foundation members were recognised for various awards including the Top Women in Aviation award, 50 Inspiring women in STEAM, Okay 100 women in the world and aviation excellence award.

## GET IN TOUCH

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