

Digital TV Migration



Challenges, Paradox and Suggestions

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Goals of Digital TV migration project:

- Complete the migration national wide before deadline**
- Rich & attractive digital TV program contents**
- Well public acceptance to the migration, everybody could afford and enjoy digital TV.**
- No financial burden to the government.**
- Formulate a digital TV ecosystem for sustainable development of digital TV industry**

Natures of Digital TV migration project

1. ITU deadline: 2015; EAC deadline: 2012; SDAC: 2013
2. It is a must do project
3. It is a public interest, involving the whole society and every people in the country.
4. It is a governmental responsibility to initiate and ensure the migration will be well completed.

Natures of Digital TV migration project cnt'd

5. TV stations, Transmission network, and decoders & integrated digital TV sets; converged with IP & Telcom
6. It is a huge project in terms of financial investment, technologies and business knowhow
7. The digital TV industry must be self-sustainable although there will be an huge ongoing cost for both technical maintenance, programs and subscriber services.

Current Situation of TV industry in African countries

1. There are some domestic TV program channels, but none of them has national coverage in most African countries.
2. As of today, most domestic TV stations, including governmental TV station, are still in analog, no national coverage.
3. Analog signal quality is relatively poor
4. Contents are to be made more rich and attractive

Current Situation of TV industry in African Countries cnt'd

5. Existing TV sets at viewers' premises are analog, each of them needs a decoder for digital migration.
6. Few digital TV licenses or pilot licenses issued, but only in few major cities, about 10% of population are accessible to digital TV programs, while public majority are still watching analog TV programs, or no TV access.
7. None has national-wide digital coverage yet.

Challenges

1. Need to achieve the whole migration successfully in a short time of period before deadline

2. Need to be affordable to all ordinary people, including low income citizen.

3. How to formulate the digital TV industrial ecosystem which enables the self- sustainable development of the industry.

Challenges

4. But lack of financial investments for:

- Digitalizing TV stations.
- Constructing digital TV transmission network National wide.
- How to achieve that every premise has decoder
- Technical knowledge, experience and know-how
- Service know-how and experience for service sustainability

Challenges cnt'd

5. Huge ongoing costs for maintenance of transmission network, renewal of transmission network, satellite or optical backbone, quality and well-known program channels, and subscriber services.

Key to well address Challenges:

Find a good development model

Discussion on Development Model

1. Selection of technology system

a. Comparison of three transmission systems:

- DTH: not suitable for regional broadcasters; need to install dish; rain attenuation
- CATV: slow implementation, high cost; not suitable for Africa which has vast land but is scarcely populated
- DTT: dish-free, self-service; good transmission quality and easy to popularize.

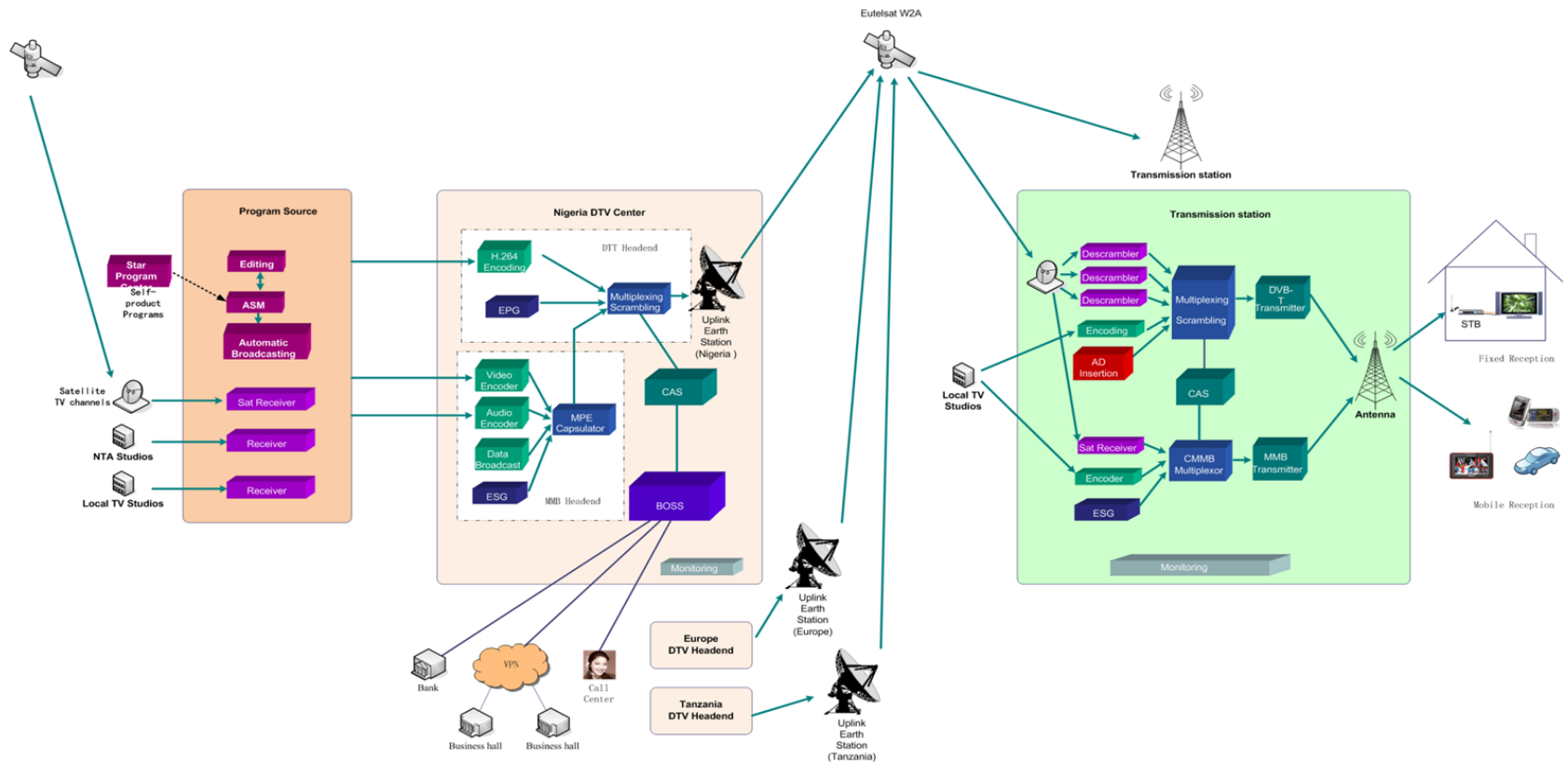
Discussion on Development Model

b. Suggestions on technical system :

- Digital TV transmission standard
- Mobile Multimedia standard
- Channel coding standard: H.264
- Standard neutrality
- Digital TV transmission platform: optical fiber and C-band satellite to be used as relay, while DVB-T and CMMB to be used to do coverage and DTH as a supplementary

Digital TV Platform: DTT+ Mobile Multimedia

Startimes' African Digital TV Network



Discussion on Development Model

2. Discussion on Migration Model

- The key is the digitalization of user-end
- The difficulty is who shall pay for the digitalization of TV

Discussion on Development Pattern

Paradox:

- **TV operators:** with no subscribers on DTT platform and analog system still in operation, TV operators won't be willing to pay extra transmission fee to be transmitted on DTT platform, as a result, no programs on DTT.
- **Subscribers:** with no program or only very few local programs which are already on the analog system, subscribers won't be motivated to buy STB.

Discussion on Development Pattern

Paradox:

- **Government:** can't switch off analog signal without the popularization of STB.
- **Signal distributors:**
 - Government doesn't allow signal distributors to charge fee from subscribers.
 - TV operators are not willing to pay transmission fee.
 - As a result, signal distributors can't recover their investment, and the operation fee can not be spread

Discussion on Development Pattern

3. Recommendations on migration model:

Government initiative, commercial operation, user participation

➤ **Government initiative:**

- Formulate plan, reach consensus, widely publicize
- Formulate regulations favorable to broadcasting and TV digitalization
- Straighten out broadcasting and TV market structure and create a brand-new industry chain;
- Formulate the timetable to switch off analogue system;
- Allow enterprises to innovate on business model

Discussion on Development Model

3. Recommendations on migration model:

➤ **Commercial operation :**

- Operator invests in the construction of digital transmission platform
- provide DTV signal transmission service for content broadcasters and charge them of some transmission fee
- Provide STB free for subscribers and offer DTV popularized services, charging a proper maintenance and subscription fee.

Discussion on Development Model

3. Recommendations on migration model:

➤ User participation:

- After the payment of monthly subscription & maintenance fee, subscribers can have access to basic bouquet free of charge
- Need to pay extra money for pay bouquet

Discussion on Development Model

6. Summary:

- Digital TV migration is a must do project, it is the responsibility of government, the mission of industry practitioners and aspiration of the public;
- It is a huge and complicated social project, requires government initiative, commercial operation and public involvement;

Discussion on Development Model

6. Summary:

- The key is development model, which should solve the difficulties & challenges, enable the well completion of migration before deadline, every African family to afford digital TV, a sustainable ecosystem for digital TV.
- Regulator should encourage the simultaneous development of terrestrial digital TV and mobile multimedia TV, and bring mobile multimedia TV into its planning and supervision.

Results:

- Total migration achieved national wide
- No financial burden to Government, loan will be repaid by the project itself
- Decoder free of charge to all viewers
- Low monthly charge, US\$2~3 for 30 programs
- More programs as options for further demands & different favorites
- Sustainable network and service
- Well established industrial ecosystem,
 - **National coverage**
 - **Governmental TV station:** no migration cost, no Transmission cost
 - **Commercial TV stations:** low transmission cost



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StarTimes Introduction
English Voice French Subtitle
Produced at June 2011.mpg

**Corporate Introduction of
StarTimes Group**

III. Company Introduction

1. General Information

- **Established Time:** Oct.1988, Beijing, China
- **Vision:** to become an influential international media group
- **Strategy:** system integrator, technology provider, network operator
- **Culture:** innovation, integrity, diligence, devotion
- **Staff:** over 1,800 employees, more than half are masters and doctors and over 50 are MBA

Headquarter



Partners

Strategic Partners

- Cisco
- Harmonic
- Conax
- NagraVision
- Thomson
- R&S
- ST
- NEC

Consulting Partners

- Deloitte Touche Tohmatsu
- Landor Associates
- Oracle
- IBM

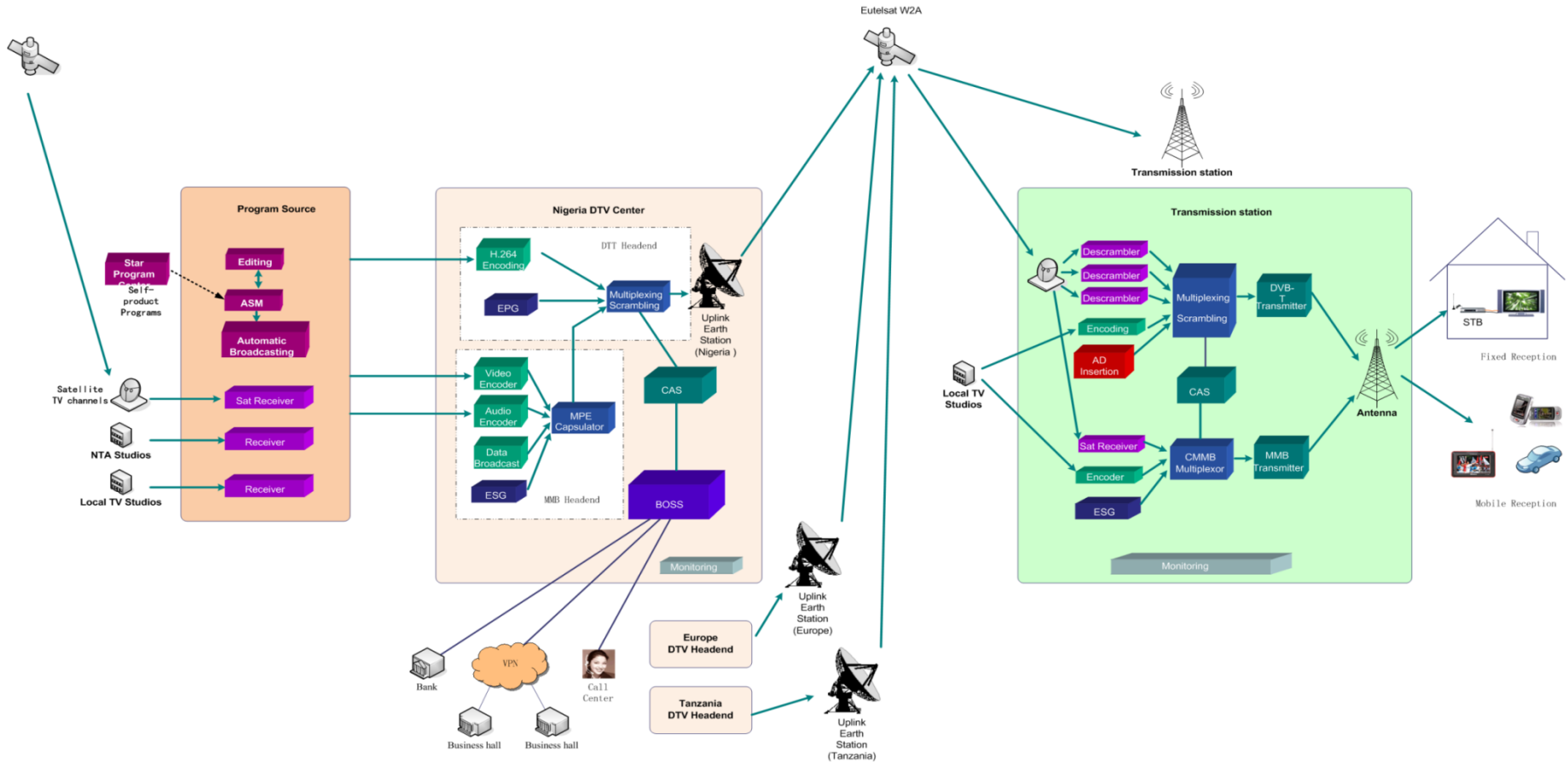
2. StarTimes in Africa

Vision

To enable every household to have access to digital TV, afford Digital TV, watch good Digital TV, and enjoy Digital TV!

DTV Platform: DTT + Mobile Multimedia

Startimes' African Digital TV Network



Satellite +DTT Coding: H.264

Fixed Reception through Large Screen



Digital Integrated TV set



TV set connected with STB

Mobile Multimedia Terminal Products



Mobile TV



Hand-hold TV
(MP4)



USB Dongle



Vehicle TV

Established partnership with many media companies

News



TV5 Monde



BBCW News



CCTV F



CCTV
NEWS



CCTV 4



Phoenix



France 24



ALJAZEERA

Al Jazeera



MSNBC

Music



C Music



B4U Music



Trace



JCTV



MTV base



Clubbing TV

Comprehensive



France ô



France 2



RTL 9



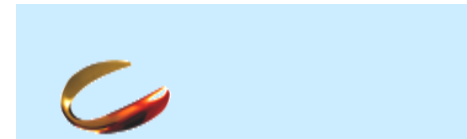
NT1



CCTV 4



STAR ONE



Vox Africa

Sports



MCS SPORTS



SERIES A



MCS EXTREME



European Champions



Footschool TV



AB Moteurs



Setanta Sports Africa

StarTimes Limited Company



Entertainment



E! Entertainment

Fashion TV

BET

e.tv

Children



Smile of child

Nickelodeon

Kidsco

Documentary



Animaux



Discovery World



Encyclopedia



National Geographic

Movies



Cine Polar



B4U movies



STAR GOLD



Bollywood TV



Cine FX



True Movies



MGM



E Star

StarTimes self-produced channels



STVC1



KungFu



STVE1



STVE2



STVF1



STVF2



MUSIC

b) StarTimes' African Project Status

1. Project in Rwanda

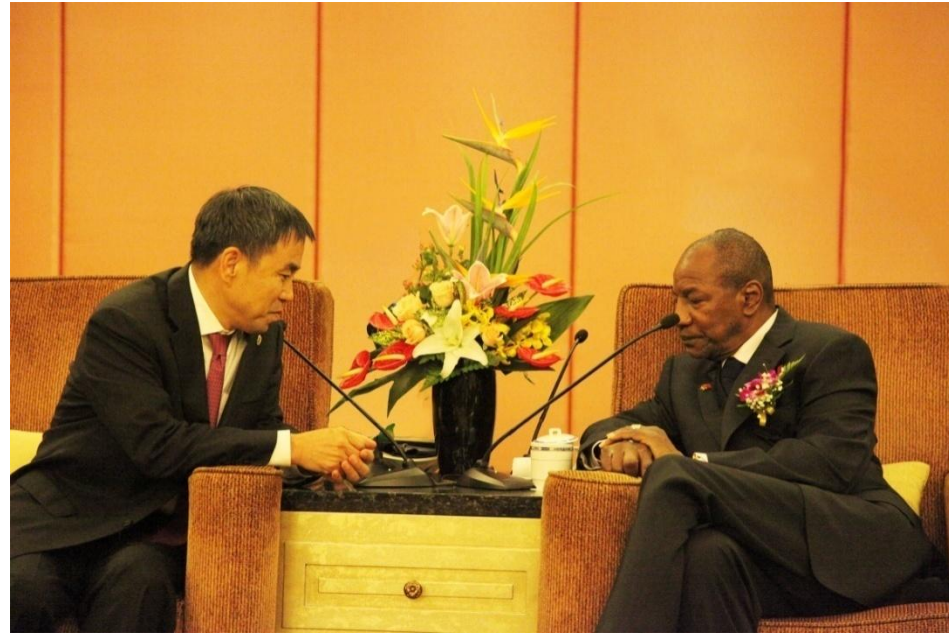
- Population: about 10 million; capital City: Kigali, 1 million population with GDP per capital 900USD. There is only one local channel which is TVR.
- The launching ceremony was held on Aug. 26, 2008. President of Rwanda Mr. KAGAME, the Prime Minister Mr. MURENZA and the Chinese Ambassador Mr. SUN Shuzhong attended in the opening ceremony.
- By now, we have developed over 40,000 subscribers in Rwanda, and the system is running well.



The Rwandan President Mr. Kagame in the opening ceremony

2. Project in Guinea

- Population: 10 million, Conakry: 2.5 million population and GDP per capita is 1,100USD. Most households in the city have TV and there are only 2 local channels in Guinea.
- Registered the company and obtained the PTV operation license in Nov. 2008.
- The project has been in operation and has developed over 28,000 subscribers.



Mr. Pang was received President

3. Project in Nigeria

- Population: 167 million; capital Abuja: 3 million population; economic city Lagos: 17 million population. GDP per capita: 2,300 USD.
- StarTimes and NTA established the Joint Venture in which StarTimes takes the majority shares. It is planned to cover the whole country within five years.
- The grand launching ceremony was held on July 29, 2010. Up to now, we have developed over 490,000 subscribers.
- The mobile multimedia trial system has been put in operation now.



Launching ceremony in Nigeria

4. Project in Tanzania

- Population: 40 million; capital Dar es Salaam : 4 million people; GDP per capita 1,300 USD.
- StarTimes and TBC has established the Joint Venture, in which StarTimes takes the majority shares. It is planned to cover the whole country within three years.
- The first phase which covers four cities has been completed. On Sep. 29 2011, a grand launching ceremony was held. Now over 130,000 subscribers have been developed.
- Tanzanian government and Chinese Embassy to Tanzania pay high attention to this project.



Lauching ceremony in Tanzania

5. Project in Kenya

- Population: 39 million; capital Nairobi, with a population of 6 million.
- GDP per capita is 1,600 USD.
- StarTimes has won the tender in Kenya's national DTV trial project which has been completed on Dec. 9, 2009.
- On Sep. 30th 2010, StarTimes signed cooperation agreement with KBC. On Oct. 7th 2011, StarTimes won the bid for the nationwide transmission platform. Right now, the project is under construction.



President of Kenya Mr. Kibaki at the opening ceremony

6. Project in Uganda

- Population: 32 million; capital city, Kampala, with a population of 2.5 million.
- The company has been registered and the DTT system which covers the capital has been completed. On Oct. 1, 2010, the launching ceremony will be held. Now over 84,000 subscribers have been developed.
- On Dec. 10, 2010, Star Media (Uganda) Ltd. Co. was awarded the first prize of “Annual Investor”, which the President of Uganda presented in person.
- The mobile TV license has been granted and CMMB system will be in trial-operation in October this year.



Launching ceremony in Uganda

7. Project in the Republic of Central Africa

- Population: 4.5 million, capital Bangui: 700,000 population.
- The project has started operation on Aug. 1, 2010 and over 9000 subscribers have been developed.



Mr. Pang with His Excellency
Mr. Francois Bozize

8. Project in Burundi

- Population: 9 million; capital: Bujumbura, with population of 600,000. GDP per capita 400 USD.
- The company has been registered and obtained the frequency and operation license.
- The only local channel in Burundi: RTNB
- The wireless digital TV system has been completed and is in operation since June 16th 2010 in the capital city, Bujumbura. Over 19,000 subscribers have been developed.
- A grand launching ceremony has been held on Dec. 6th ,2010. The President and Chinese ambassador to Burundi attended the ceremony and witnessed this historical moment.



Launching ceremony in Burundi

9. Project in Mozambique

- Population: 20million , with 3million in Maputo, the capital city.
- The joint venture will finish national coverage of DVB-T system and CMMB system in Mozambique within three years. The system has been completed and the launching ceremony was held on 22 April. Now more than 36,000 subscribers have been developed.



President of Mozambique

10. Project in Senegal

- Population: 13million, capital Dakar 3.5 million.
- On Aug. 20, 2010, StarTimes and Senegal National Station(RTS) signed the Joint Venture Agreement.
- From Sep. 19-23, 2010, Senegal delegation came to Beijing for the first Boarding meeting of the Joint Venture, which was quite fruitful.
- The system is under construction now.



Mr. Pang with the President of Senegal

11. Project in Ghana

- Population: 22million, capital Accra 2 million.
- On July. 29, 2011, StarTimes and Ghana DirecTV signed the Joint Venture Agreement.
- The system is under construction now.



Mr. Pang with the Partner in Ghana DirecTV

12. Project in Congo (Kinshasa)

- Population: 67 million; capital: around 10 million.
- On Sep. 14, 2011, StarTimes and Congo State TV Station RTNC signed the cooperation agreement at the witness of the Communication Minister .
- Now the project is under construction.



Mr. Pang meets with the Minister

13. Project in Benin

- Population: 11 million; political capital: 4 million; economic capital: 1 million.
- In June, 2011, the Benin delegation was invited to visit StarTimes in Beijing and signed the cooperation meeting minutes. The Joint venture is scheduled to be registered in this October to do the digital TV and related services.
- Project under construction.



Mr. Pang with the President

Thanks!

The background features two large, overlapping abstract shapes. On the left, there is a grey shape with a vertical gradient, transitioning from a lighter grey at the top to a darker grey at the bottom. On the right, there is a blue shape with a vertical gradient, transitioning from a lighter blue at the top to a darker blue at the bottom. The two shapes meet at a diagonal line that slopes downwards from left to right.