AnaPico Products For Quantum Computing

Yu Gao, VP Sales

Quantum X, Get-to-know Meeting,
KIT NanoMat, Germany
Jan. 24, 2022

AnaPico AG Switzerland

www.anapico.com

100% Swiss Company
Supplying RF and MW Test Instruments

- Represented in over 40 countries
- ISO 9001 certified
- Founded in 2004 in Zurich, Switzerland
- Privately held
- R&D, manufacture, sales and marketing
- Profitable and growing since > 10 consecutive years

AnaPico Products

SINGLE-CHANNEL RF / MW SIGNAL GENERATORS

APSINX010: single-channel RF SG up to 2, 4, 6 GHz, analog modulations

APSINXXG: single-channel MW SG up to 12, 20, 26 GHz, analog modulations

APULN: high-performance RF and MW SG up to 6, 12, 20, 26, 40 GHz, analog modulations

APVSG: ultra-agile, vector RF and MW SG up to 4, 6, 12, 20, 40 GHz, digital modulations

MULTI-CHANNEL RF / MW SIGNAL GENERATORS

APMS-X: up to 4 fully independently adjustable, phase-coherent and phase memory, up to 6, 12, 20, 33, 40 GHz

APVSG-X: up to 4 fully independently adjustable, phase-coherent, 4, 6, 12, 20, 40 GHz

FREQUENCY SYNTHESIZERS SINGLE- / MULTI-CHANNELS

APSYN420, APSYN140(-X): single- and multi-channel frequency synthesizers up to 20, 40 GHz

APUASYN20(-X): ultra-compact up to 20 GHz, 1/2/3/4 channels

SIGNAL SOURCE ANALYZERS / PHASE NOISE TESTERS

APPH: versatile, broadband instruments up to 7, 26, 40, 50, 65 GHz with very high measurement sensitivity

Multi-Channel MW Analog Sources

Models:

- APMS-X: 6, 12, 20, 33, 40 GHz
- APUASYN20-X: 20 GHz
- APSYN140-X: 40 GHz

Applications:

- As RFLOs to IQ modulators / mixers
- As pumping sources for parametric amplifiers

Main QC relevant features:

- Settling time as quick as 5 to 25 us
- Very low phase noise: 20 GHz, 10 Hz offset: -80 dBc/Hz; 100 kHz offset: -122 dBc/Hz
- Output power: up to +25 dBm
- Best-in-class phase coherence: RMS 0.2 degree@ 5 GHz over 5 hours
- Unique phase-coherent switching: maintaining the same phase difference between the channels after frequency change and ON/OFF
- Channel individual phase adjustment
- Compact design: up to 4 channels in 1 HU RM module
- Low power consumption: 15 to 40 W per channel
- Powerful channel to channel synchronization: inter-channel sync and sync to external ref sources
- Pulse modulation, AM/FM/PM.

Multi-Channel MW Digital Sources

Models:

- APVSG-X: 4, 6, 12, 20, 40 GHz

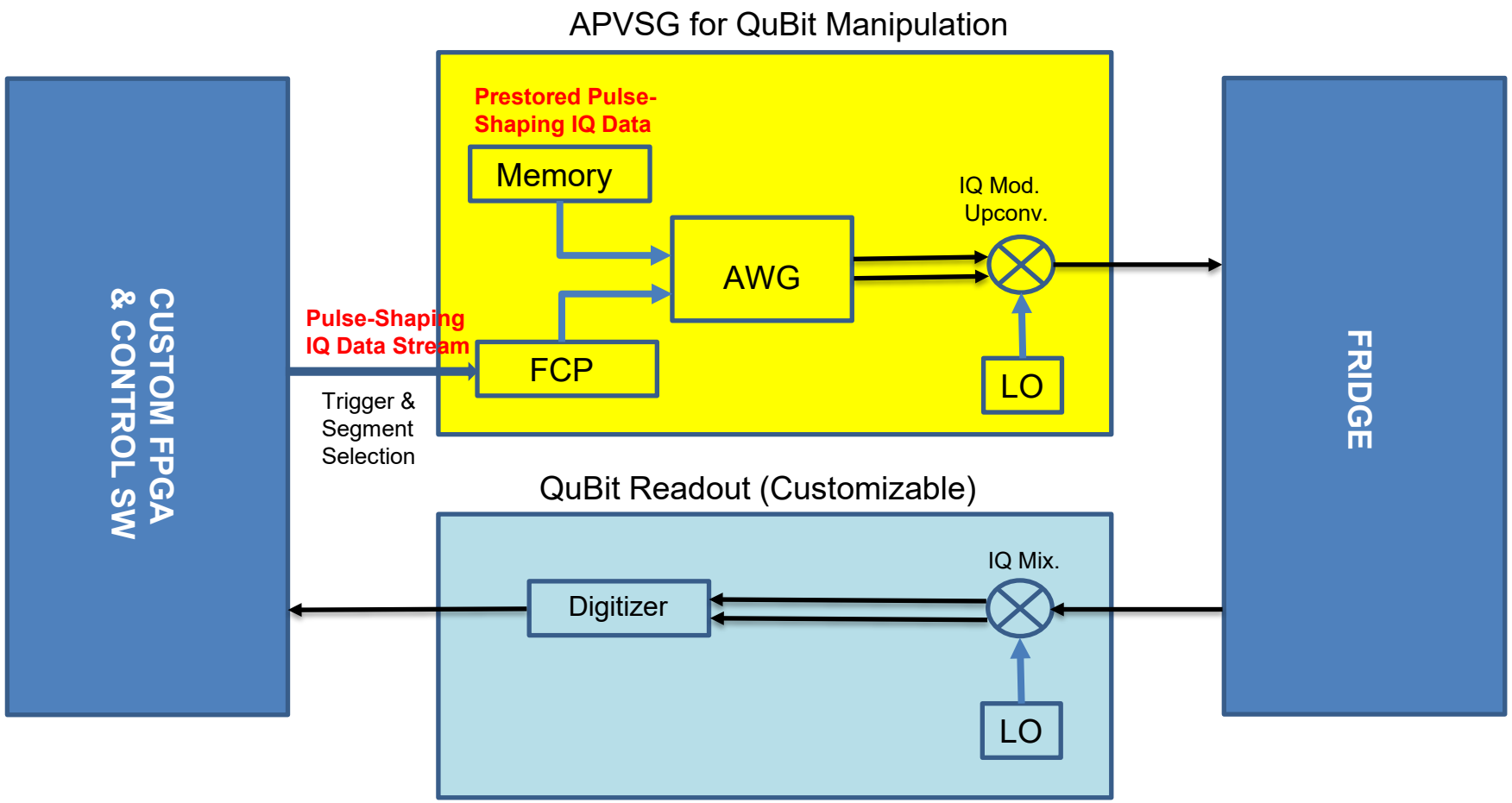
Applications:

- As RFLOs to IQ modulators / mixers
- Generation of QuBit manipulation signals

Main QC relevant features:

- Settling time as quick as 200 ns
- Very low phase noise: 20 GHz, 10 Hz offset: -80 dBc/Hz; 100 kHz offset: -120 dBc/Hz
- Output power: up to +20 dBm
- Best-in-class phase coherence: RMS 0.2 degree@ 5 GHz over 5 hours
- Channel-individual phase adjustment
- Compact design: up to 4 channels in 2 HU RM module
- Low power consumption: 40 - 60 W per channel
- Pulse, analog and vector modulations with bandwidth 400 MHz
- Int. RAM 512 MSa per channel and ext. SD card for IQ waveform storage
- Int. programmable and ext. controllable waveform selection and playback

APVSG for Quantum Computing



Quantum Computing Customer References

USA:

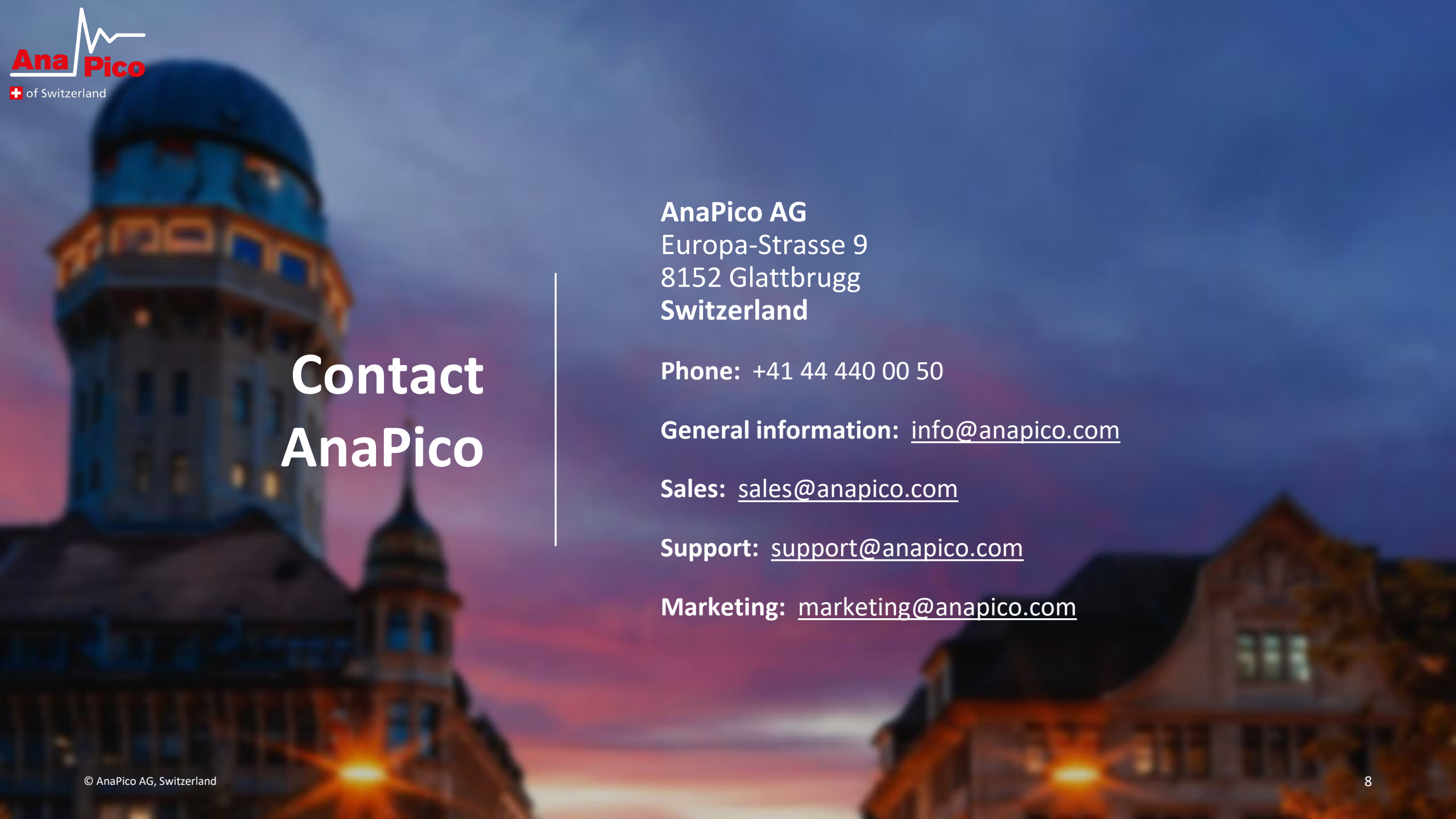
- IBM / Google / MIT / … USA

Europe:

- Oxford Uni. / Oxford Quantum Circuits / … UK
- Chalmers Uni., Sweden
- QuTech, Netherlands
- Uni. of Vienna, Austria
- KIT / TUM / FZJ / … Germany
- EPFL, MiraEx, Switzerland

Asia-Pacific:

- Qinghua Uni. / Beijing Uni. / Zhejiang Uni./ CAS / USTC / … China
- Tokyo Uni. / Nagoya Uni. / NTT / AIST / RIKEN / NICT / … Japan
- ETRI / KAIST, Korea
- Sydney Uni., Australia



Contact AnaPico

AnaPico AG
Europa-Strasse 9
8152 Glattbrugg
Switzerland

Phone: +41 44 440 00 50

General information: info@anapico.com

Sales: sales@anapico.com

Support: support@anapico.com

Marketing: marketing@anapico.com