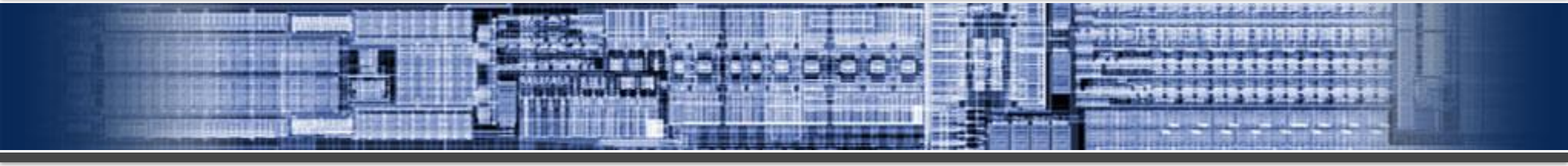
Silicon Creations®



**Paweł Banachowicz**
Director of Analog/Mixed-Signal Design

Meet our Team @ the booth:

**Krzysztof Kasiński** Director of IP Verification & Validation Laboratory

**Joanna Iwanicka** IP Verification & Validation Engineer

# Outline

- Silicon Creations introduction
- Supported Semiconductor Manufacturing Technologies
- PLL, Oscillator & Supplementary Clocking IPs
- SerDes IP
- Educational Outreach
- Summary

# Silicon Creations Overview

- IP provider of **PLLs, Oscillators** and **High-speed Interfaces**
- Founded 2006 – self-funded, profitable and growing
- High quality development, award winning support
- Design offices in **Atlanta, USA** and **Krakow, Poland**
- >400 customers

**Mass production** in all FinFET nodes down to 5nm with 3nm PLLs silicon-proven

# Foundries Overview

PLANAR FD-SOI FinFET GAA

TSMC Open Innovation Platform®
**IP & 3DFabric™ Alliance**

Samsung Advanced Foundry Ecosystem (SAFE™)
**IP Partner Program**

Intel Foundry Services
**Accelerator IP Alliance**


TSMC Mixed Signal Partner of the Year
2017,2018,2019,2020,2021,2022

# PLL IP from Silicon Creations

Highest volume analog IPs

Our **PLLs** are on **+10M TSMC** wfrs

**Robust design and good QA (ISO9001)**

PLL products include

**General purpose** Integer & Fractional,

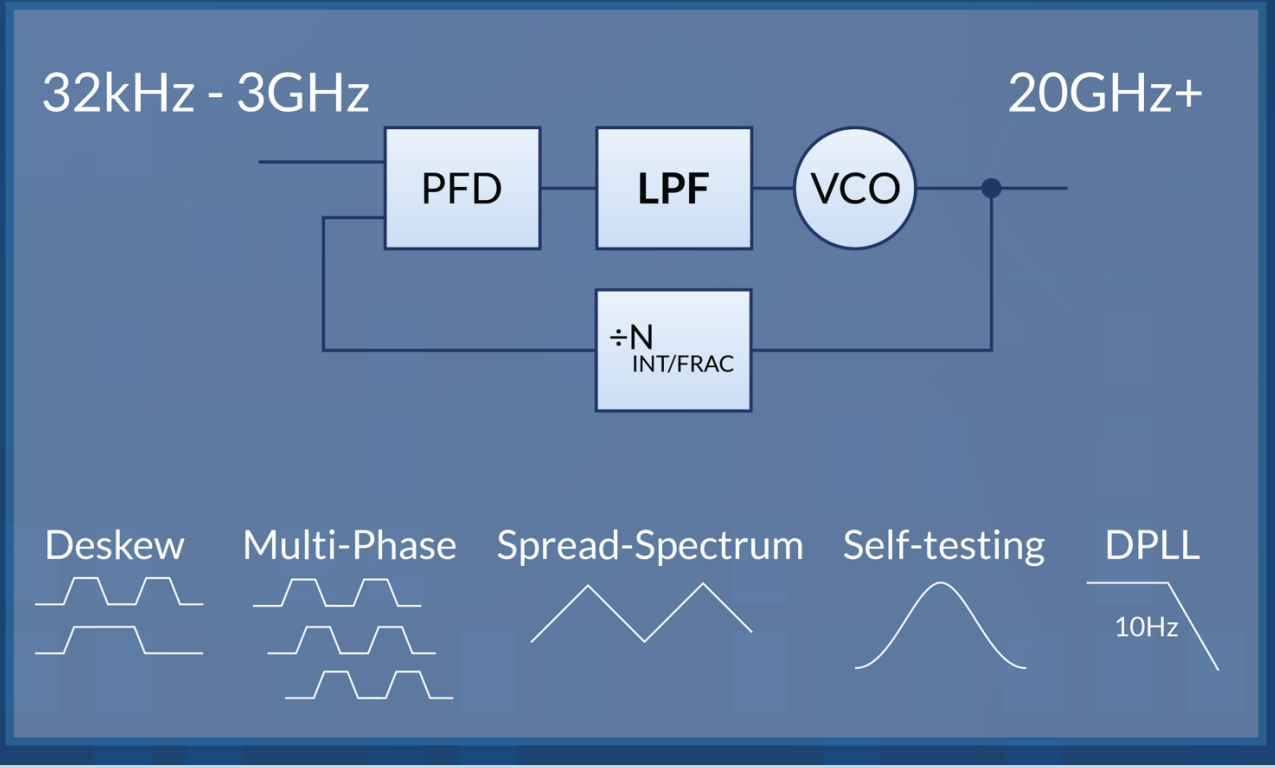
application specific options:

**Low-Jitter, µW IoT, Automotive, Low Area, Low-Power**

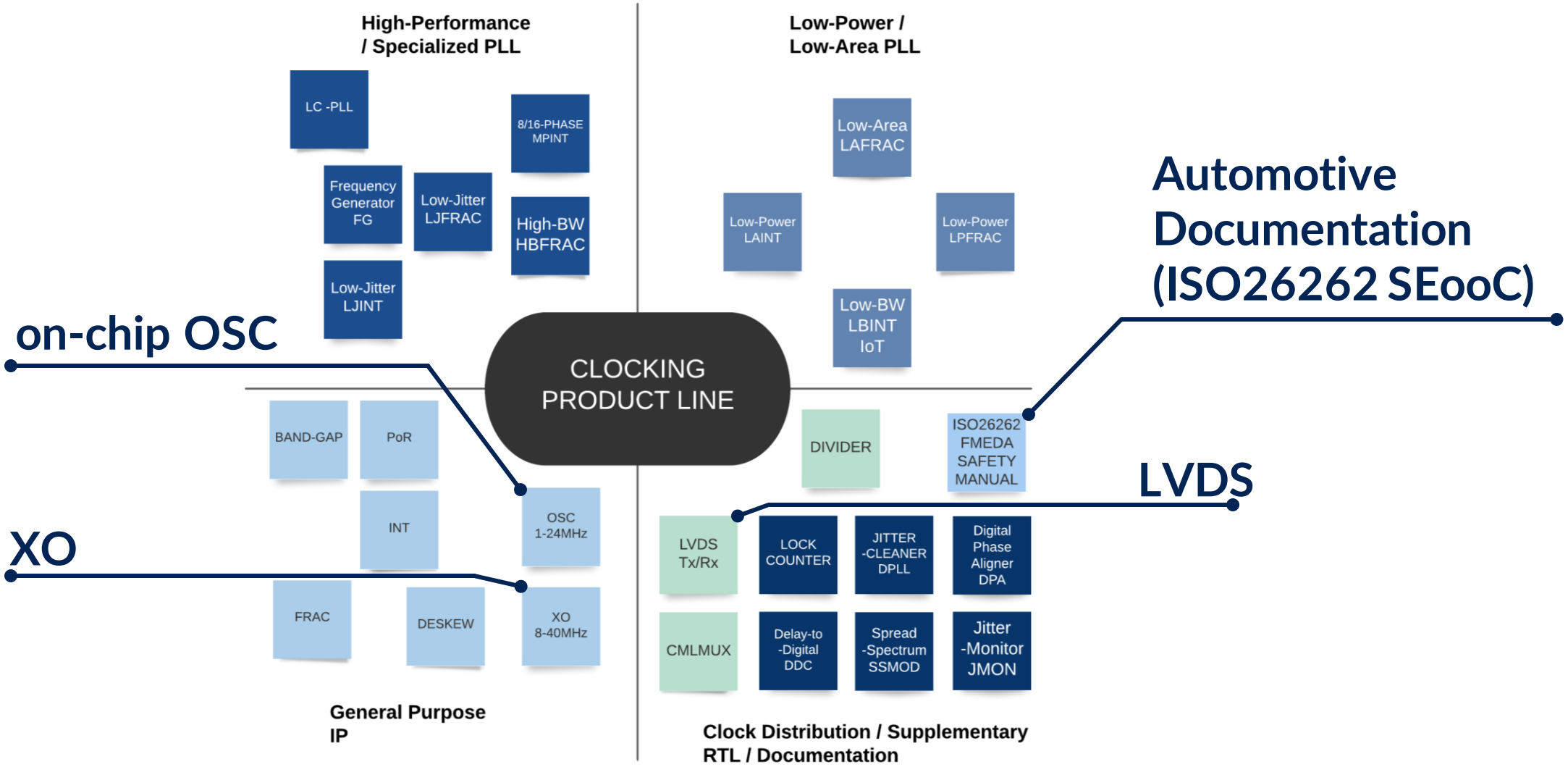
Available in **3nm-180nm**

## PLLs & Oscillators

Power | Jitter | Area Optimized



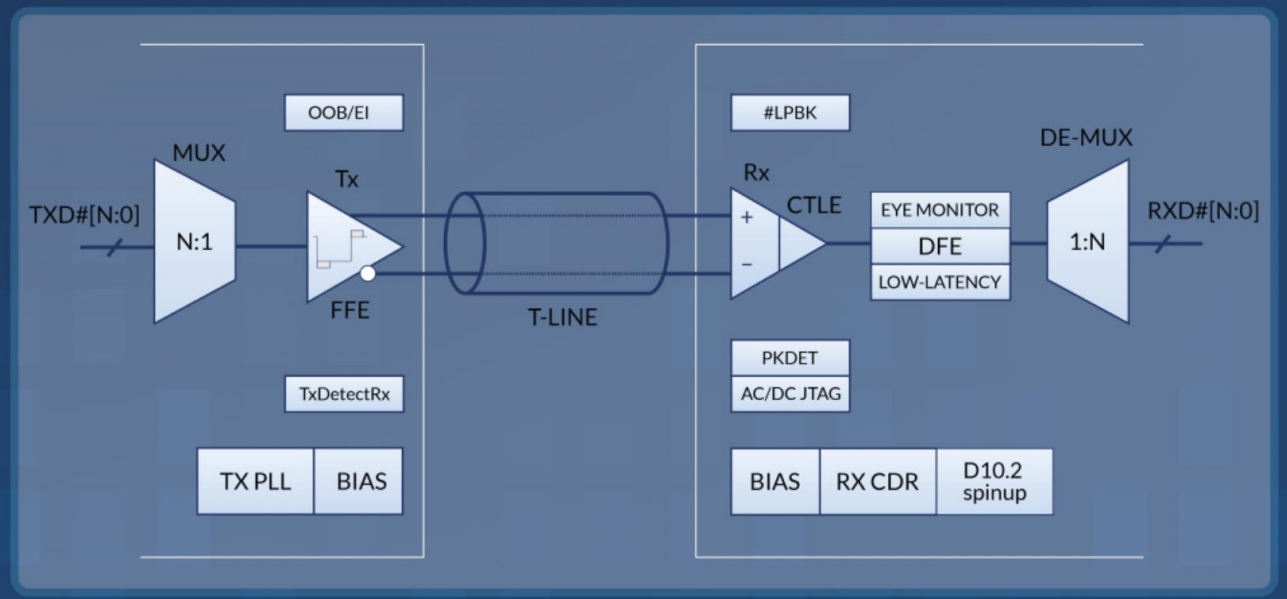
# PLLs and supporting Hard-Macro & RTL IPs



# SerDes IP from Silicon Creations

## Multiprotocol NRZ SerDes

PCIe, Display Port, Ethernet, USB 3.x & more | Low-latency




- Ultra-Low Power
- 14-tap/5-tap DFE architectures
- Other interfaces: LVDS,CML

**FinFET MP SerDes PMA eye-diagram:**

# IP V&V Laboratories

- Kraków & Atlanta
- 16 full testbenches
- PLL, OSC & SERDES targeted
- Silicon-proven IPs


# Quo Vadis Polish Electronics & Photonics?

**Chip Companies**
**IP Companies**
**Semiconductor Industry**
**Universities**
**Schools**
**…**

**&**

**Young People**
Interested in electronics

➡

Later pursuing education & career in
Microelectronics, Electronics, Photonics,
Power Electronics, Device Research

## Silicon Creations Educational Outreach

# Silicon Creations Educational Outreach

## Early education
(visitors, lectures, games)

## Technical High-Schools & Universities
(visitors, lectures, interns, contests)


Prof. Michiel Steyaert
(KU Leuven, Belgium)

**4-DAY COURSE ON MICROELECTRONICS**
**BY PROF. MICHIEL STEYAERT**

IEEE Solid-State Circuits Society Chapter Poland

Silicon Creations


**MTM Mikroelektronika w Technice i Medycynie**
274 obserwujący • 7 obserwowanych

IEEE Solid-State Circuits Society Chapter Poland Technical Meeting

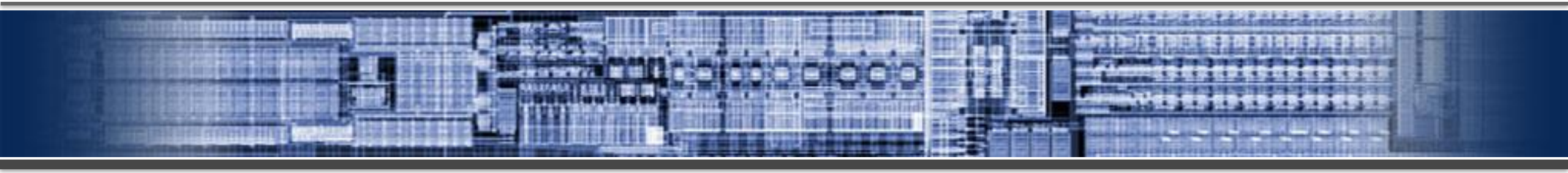
Nanoscale FinFET Technology for Circuit Designers

Dr. Alvin Loke (NXP)

Silicon Creations · VTV · SSCS · IEEE · AGH

IEEE SSCS Chapter Poland Lecturers: Willy Sansen, Michiel Steyaert, Bogdan Staszewski & others (including Silicon Creations employees)

Result: **75%** of Silicon Creations employees graduated from MTM Microelectronics (AGH University) course.



# Thank You
## For Your Attention!

- For more information about IP, please contact sales@siliconcr.com
- For careers in Poland, please contact hrpl@siliconcr.com
- Meet our Team at the booth
- Listen to technical talk this Thursday (Sesja Wykładowa II) 10.20 - 10.35

  *Testowanie systemów generacji zegara w nowoczesnych mikroukładach typu SoC*

  Krzysztof Kasinski, Joanna Iwanicka, Magdalena Chrobak


Paweł Banachowicz
Director of Analog/Mixed-Signal Design

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