LC WEBINAR

EPIC Online Technology Meeting on UV-LED-based Technologies and Applications

by Peter E. Gordon - Bolb Inc.

Epitaxy Growth in Livermore, CA – Company Leadership

Jerry JP Zhang, Ph.D., Co-founder, Chairman and CTO
DARPA Outstanding Performance Award winner 2003
Former Epi Manager at Sensor Electronic Technologies (SETi). Author of over 100 publications and more than 50 patents. Post doctoral fellows at Univ. South Carolina (Asif Khan), Ph.D. Institute of Semiconductors, CAS.

Bob Y Gao, Ph.D., Co-founder, EVP
Former VP of epitaxy at QD Jason Co., and senior scientist at Sensor Electronic Technologies (SETi) and Intrinsic Co.
Ph.D. Univ. of Sout Carolina

Marvin L. Zhou, Ph.D., Co-founder, CEO and BOD Member
Senior Scientist, Lumileds 2002-07
DARPA Outstanding Performance Award winner 2003
EVP, QD Jason Co. 2009-14
Ph.D., Univ. of Illinois at Urbana-Champaign

Peter E. Gordon, VP Business Development
Former Managing Partner, LiTeProducts LLC and Germgard Lighting LLC
IUVA UV Solutions for Food Security working group
ASHRAE TC2.9 UVC Air Treatment working group
NIST UVC LED characterization working group
MS EE, UC Santa Barbara

Epitaxy Growth in Livermore, CA – Company Leadership / Advisory Board

Mike Krames, Ph.D., IEEE Fellow
Former CTO, Soraa
Executive VP, Philips Lumileds
Ph.D., Univ. of Illinois at Urbana-Champaign

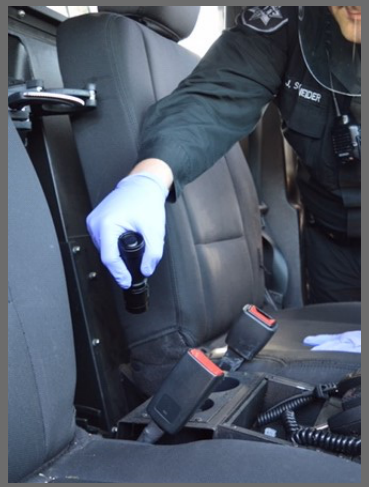
Frank Harder
Former VP, Global Sales, Philips Lumileds
Former VP, Samsung Strategy and Innovation Center
Wharton School of Management, U. Penn
MS Sc. EE, Univ. of Duesseldorf, Germany

PROFESSIONAL use of UVC LED technology driven by 3 megatrends

Reduce Exposure

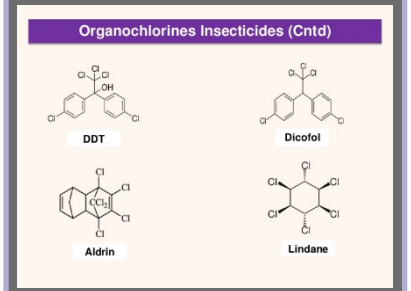
Sever infectious pathogen transmission pathways

Protect the Public Grow Economy



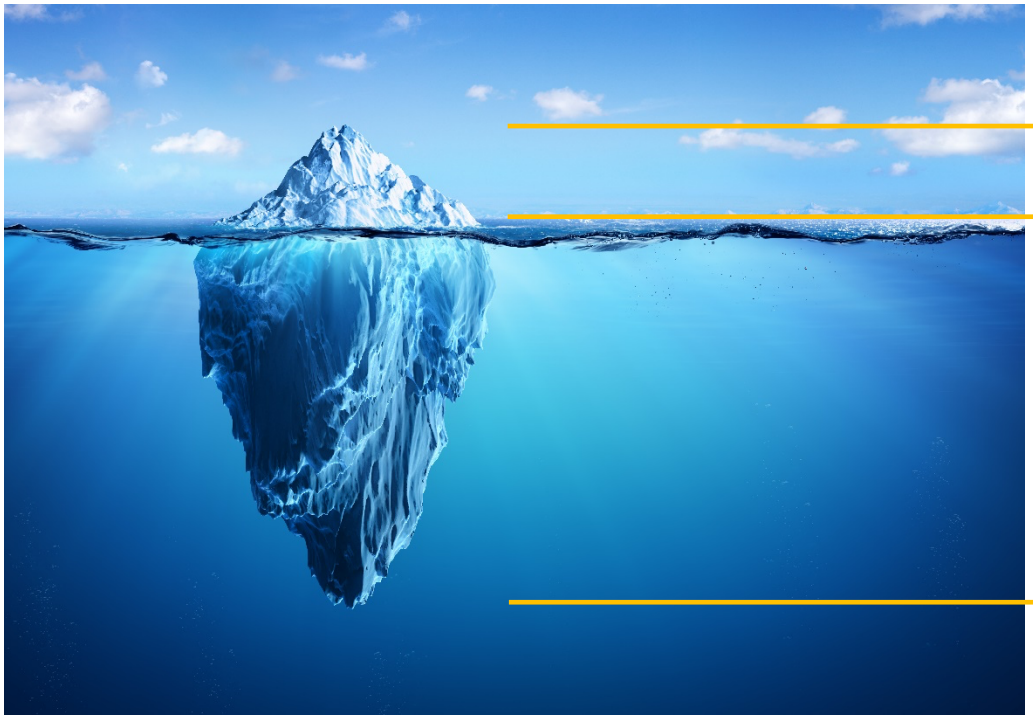
Instill confidence and trust in reoccupying shared space

Replace Chemistry



Proven „Green“ Alternative

Significant hidden potential for PROFESSIONAL use



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Accessible in 2021
$200M

To be reached by 2025
$500M-$1,000M

UVC LED serving these PROFESSIONAL applications today

- POU and POE Water Treatment
- Air Treatment in occupied space
- Surface Disinfection via Fixture
- Surface Disinfection via mobile chassis
- Surface Disinfection portable emitters
- Auto Cabin Disinfection
- Horticulture and Food Security
- Defense (NATO countries)
- Bio / Gas Sensors
- UV Curing

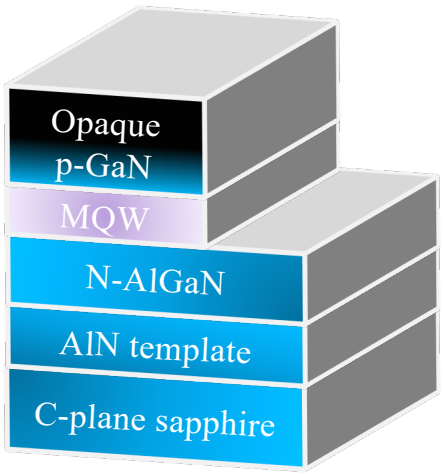
In 2021 accessible market will require > 50M high power single emitter devices

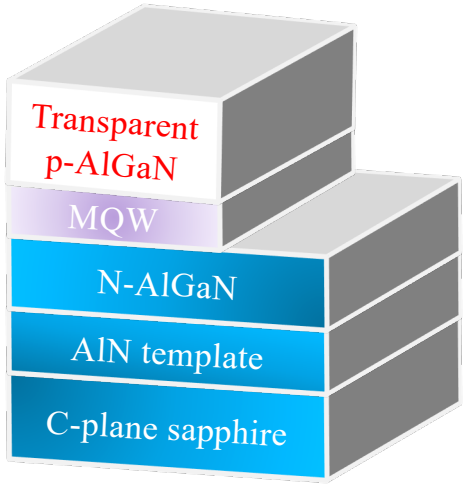
High Light extraction efficiency:

The game changer in solid-state UVC technology

BOLB

Conventional Design: non-transparent P layer Very Poor η_{ext} (<6%)	BOLB breakthrough transparent P layer and efficient hole injector Excellent η_{ext} (pathway to 60%)





Technology Advancements

June 2020

Typical single emitter
100 mW @ 250mA 6V
6060 SMD
L70 3500 hours
at case temp of 38o C

June 2021

Typical single emitter
200 mW @ 250mA 6V
6060 SMD
L70 3500 hours
at case temp of 55 C

Your contact person

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Thank you for your attention!

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