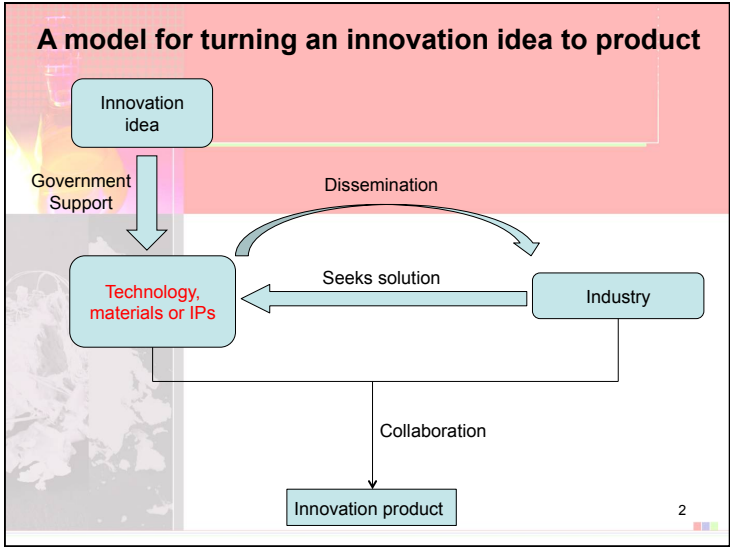


Innovation-driven Partnerships in Hong Kong and Mainland China

Phosphorescent Materials for Organic Light-Emitting Diode (OLED) Application

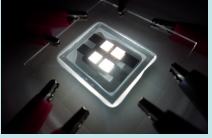


1

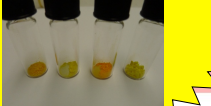


OLED – important innovation idea

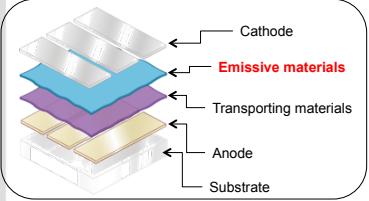
High efficiency devices



Robust phosphorescent materials

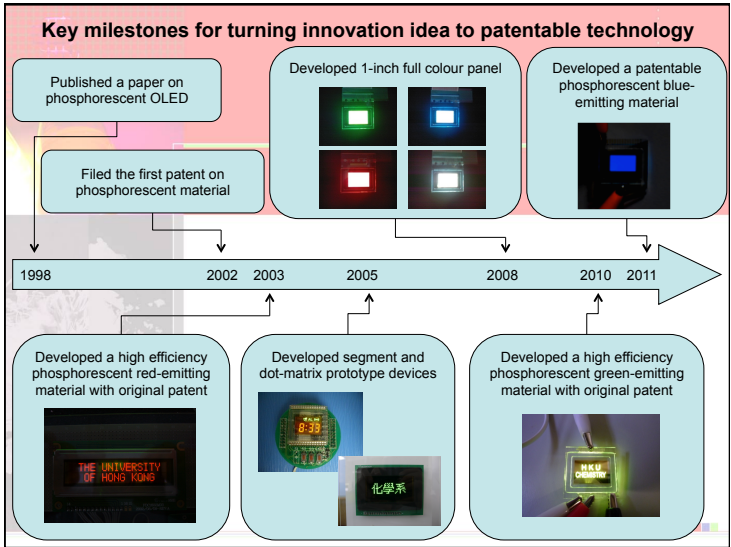


Basic device architecture



The most important innovation element

3



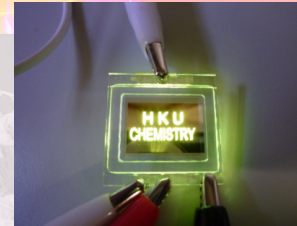
Phosphorescent red-emitting material



Emission λ_{max}	632 nm
CIE	(0.65, 0.35)
Current efficiency	10.8 cd A ⁻¹
Power efficiency	4.9 lm W ⁻¹
External efficiency	9.4 %
Lifetime (@100cdm ⁻²)	20,000 hours

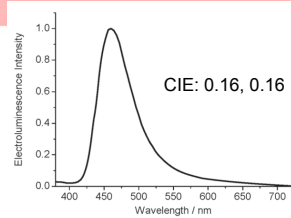
Device lifetime equal to **77,000** hours at 500 cdm⁻² for :
ITO/ CuPc (7 nm)/ NPB (30 nm)/ CTP:complex/ Alq₃ (30 nm)/ LiF (0.3 nm)/ Al (150 nm)

Phosphorescent green-emitting material



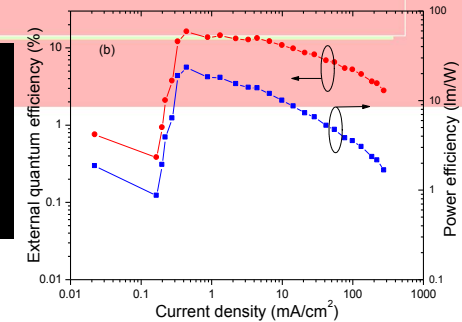
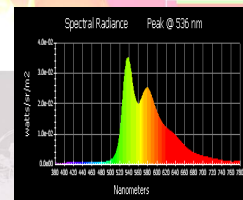
CIE	(0.27, 0.64)
Current efficiency	29.8 cd A ⁻¹
Power efficiency	18.6 lm W ⁻¹
External efficiency	7.4 %

Phosphorescent blue-emitting material



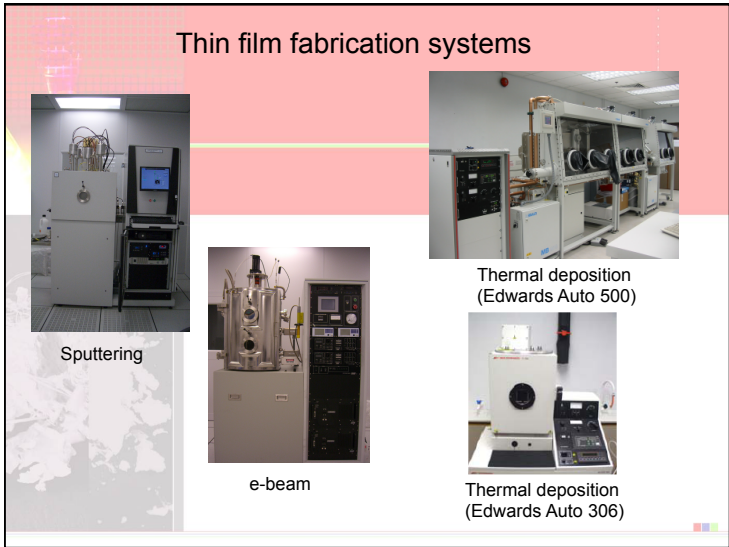
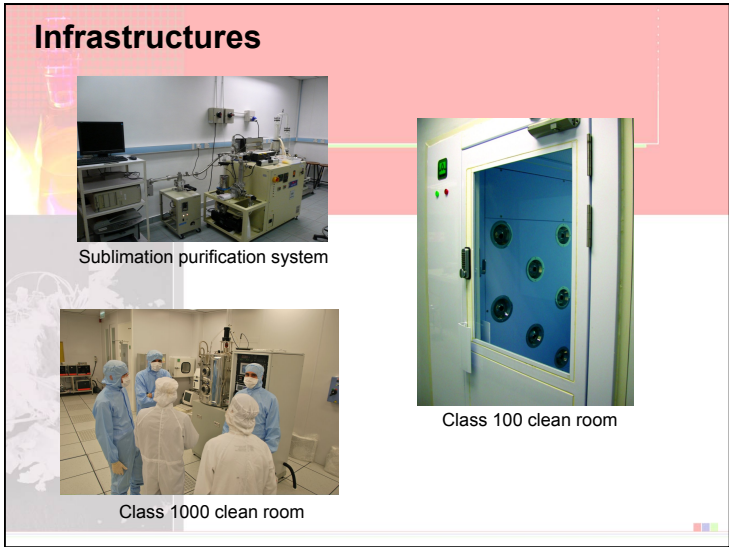
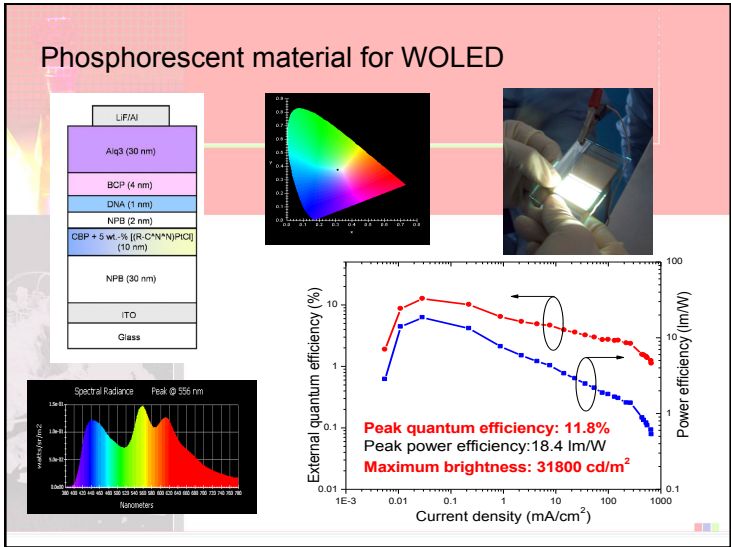
7

Phosphorescent yellow-emitting material



Maximum brightness: 23500 cd/m²
Peak quantum efficiency: **16.1%**

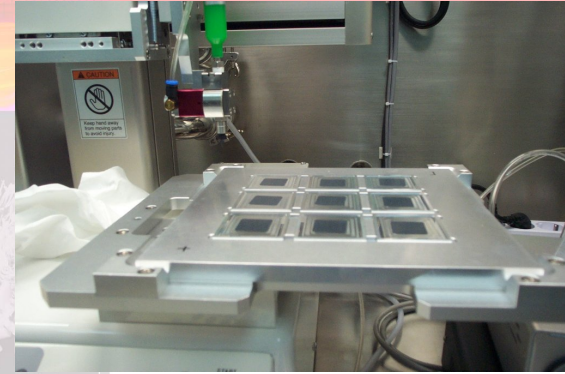
Peak luminous efficiency: **51.8 cd/A**
Peak power efficiency: **23.2 lm/W**



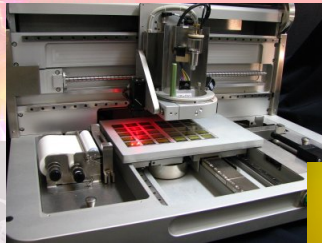
Sunic plus 200 – substrate size: 200mm x 200mm



Encapsulation system



Solution process fabrication systems

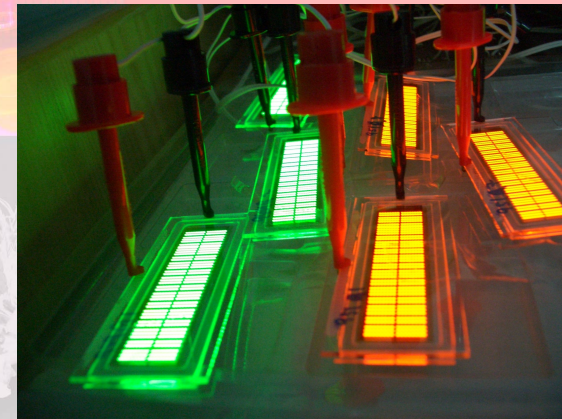


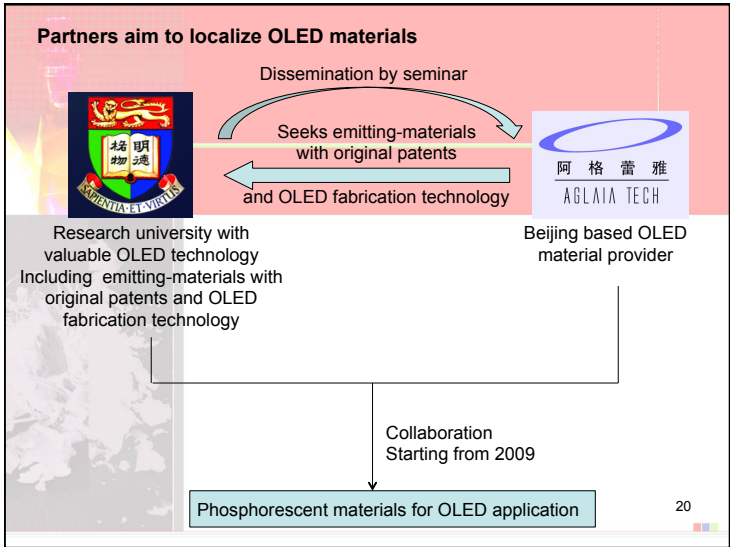
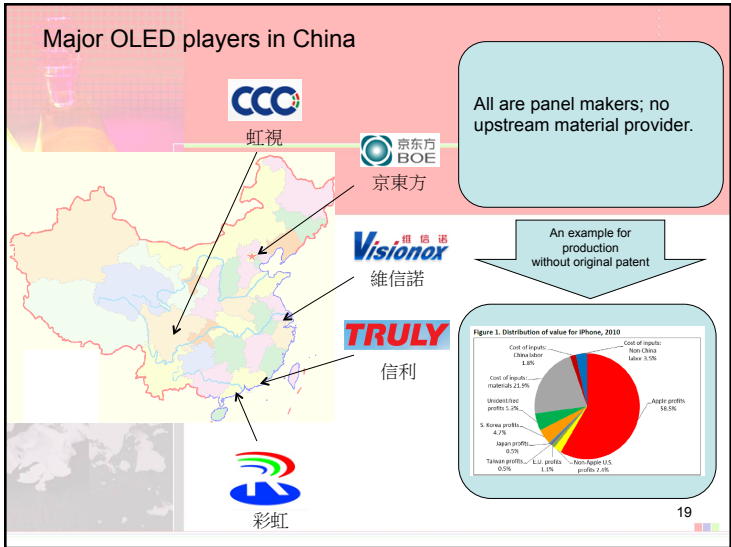
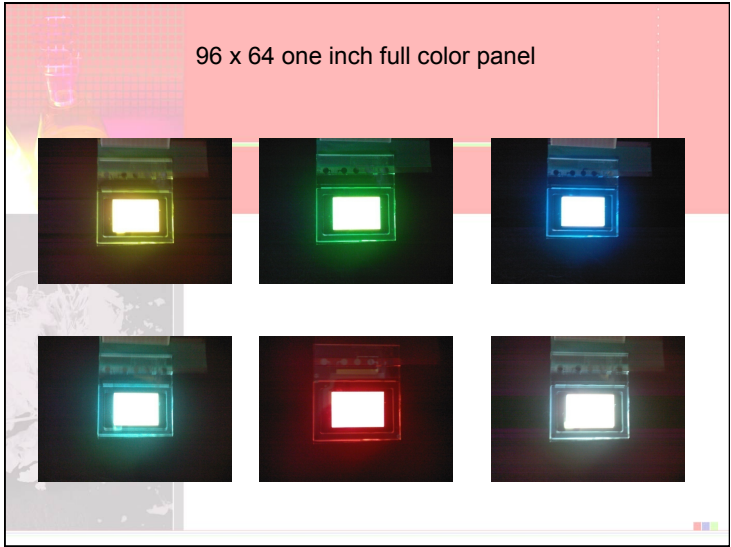
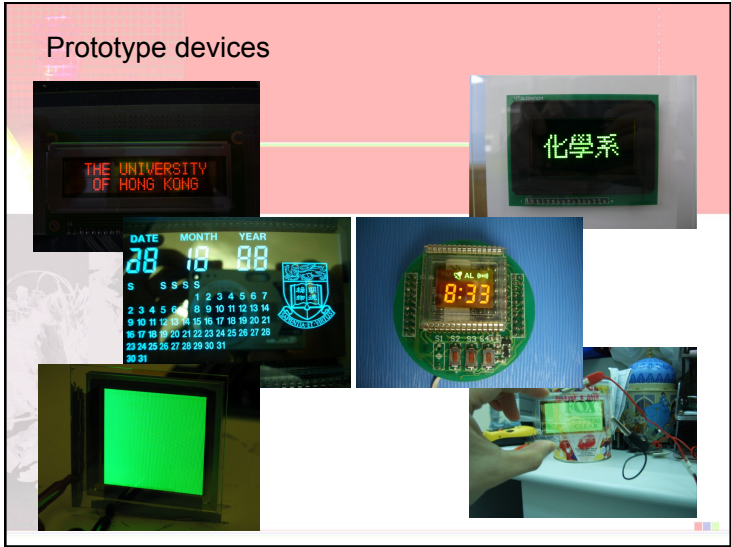
Inkjet printer
(Pixdro PL-50)



Spin coat system

Device lifetime determination system





Join the Industry Alliance

聘书

为推动广东省 OLED 产业的发展, 特聘请 艾志明
为广东省 OLED 产业联盟的产业专家, 指导联盟的各项工作。

OLED
广东省 OLED 产业联盟
主席 邢建秋

二〇一〇年一月

21

Line up a industry chain for AM-OLED

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合作协议书签约仪式

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22