



OLED EMITTING MATERIALS PATENTS ANALYSIS REPORT

OLED IP Project | UBI Research

| PATENT ANALYSIS DATA

- File

.xlsx



- Construction

Composition of nation code. nation of applicant.

Applicant (Companies. Laboratories. Univesities and so on).

Purpose. Application. Chemical formula. Embodiment. Legal status.

Application. Number. Publication date and Registration date.

Nation (Code)	Nation (Applicant)	Applicant	Purpose	Application	Chemical Formula	Chemical Formula
KR	KR	A Company	EML	Soluble		

Legal Status (KR. JP. EP. CN)	Application No.	Publication Date	Registration Date.
Registered	10-xxxx-xxxxxxx	2020. 01. 01	2020. 01. 01

| PATENT ANALYSIS REPORT

- File

.pdf

- Provide

- Graph of patent status by month and year.
- Composition of patent status by Applicant, Nation, Purpose and so on.
- OLED materials patents review of a specific company (Not monthly)

| NATION

- Code : Korea. China. Japan. USA. EP. PCT
- Applicant : Nation of applicant. Korea. China. Japan. USA. EP. others.

| APPLICANT

- Companies. Laboratories. Universities and so on. Name of applicant is standardized as much as possible.

| PURPOSE

- CPL, ETL(ETL and HBL), EML(Dopant, host and so on), HTL(HTL, R', G' and B') and others.

| CHEMICAL FORMULA AND EMBODIMENT

- Pictures of representative chemical formulas and examples.

| LEGAL STATUS. APPLICATION NUMBER. PUBLICATION DATE. REGISTRATION DATE. PATENT FAMILIES.

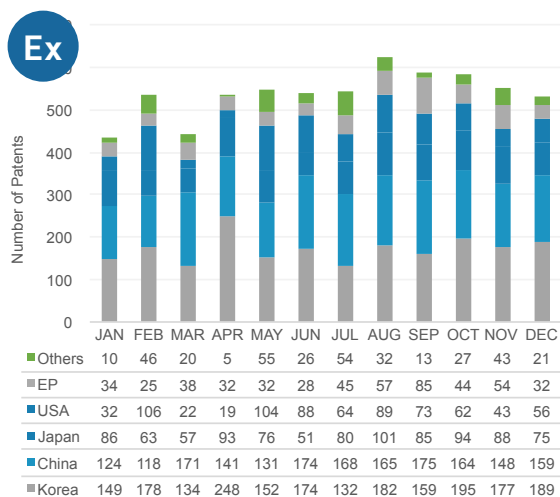
- Status of patents based on report publication such as application, registration, under examination and withdrawal.

3. PATENT ANALYSIS REPORT

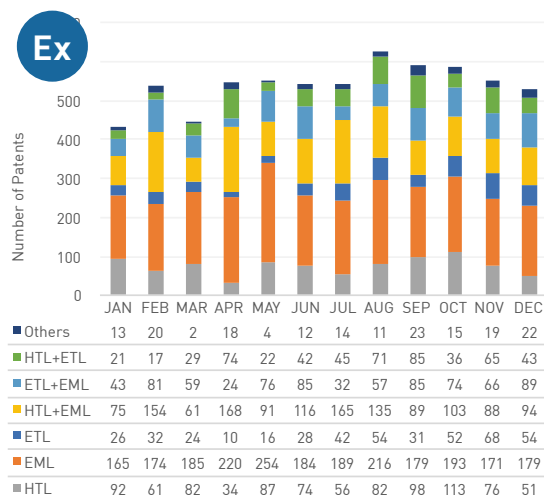
MONTHLY DATA

· Classify patents by month and provide corresponding graphs.

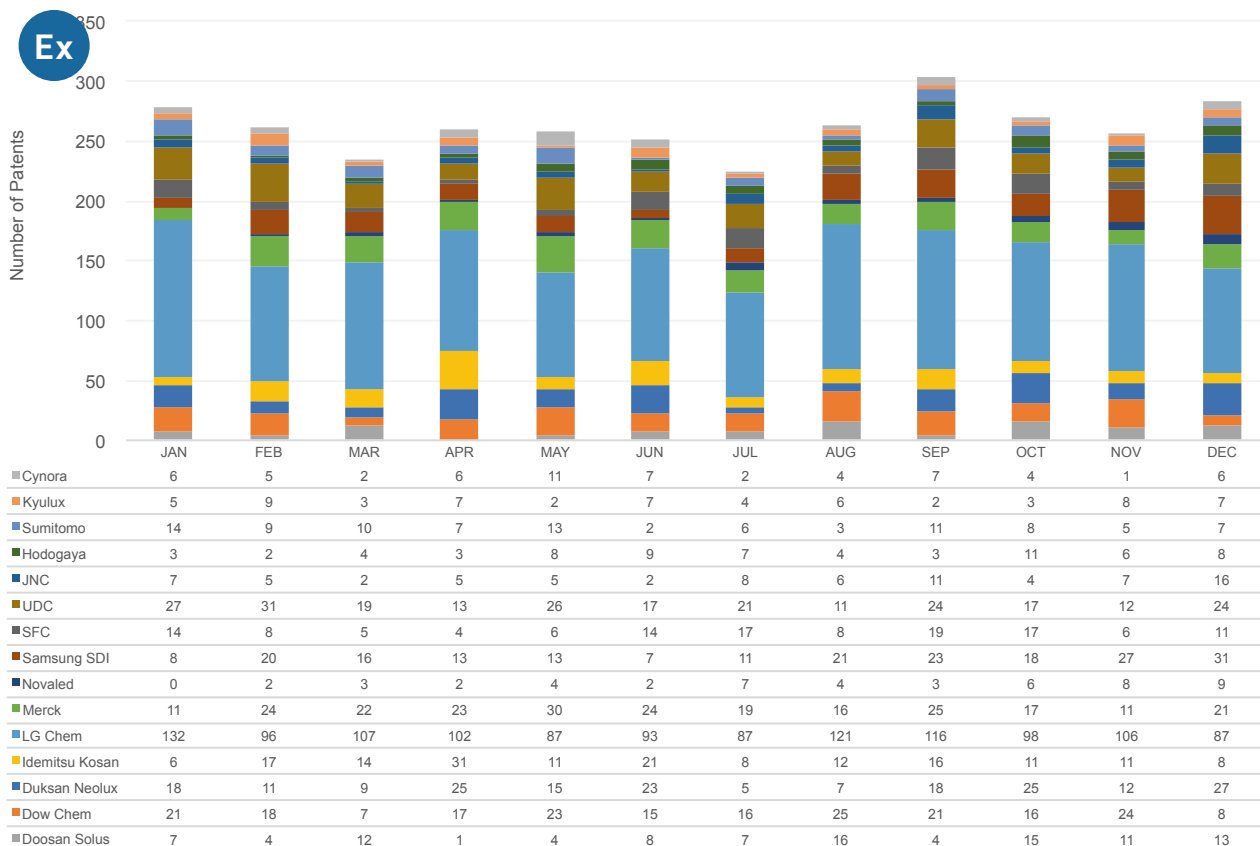
[No. of patents by nation of applicants in 2020]



[No. of patents by purpose in 2020]

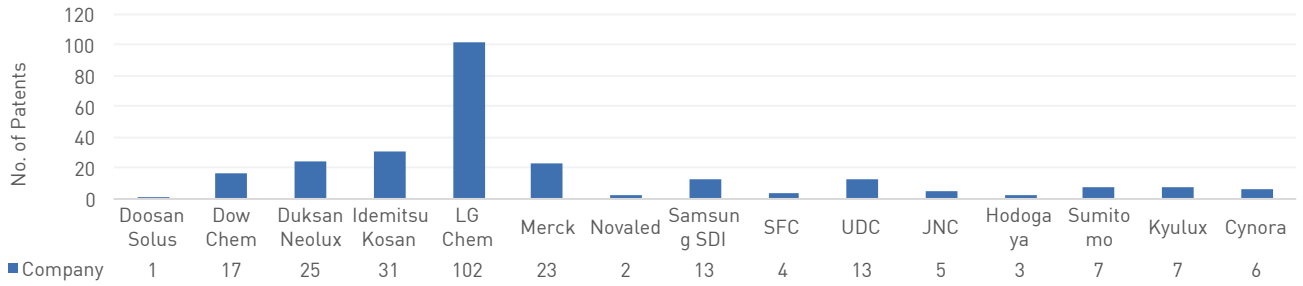


[No. of patents by specific applicants in 2020]

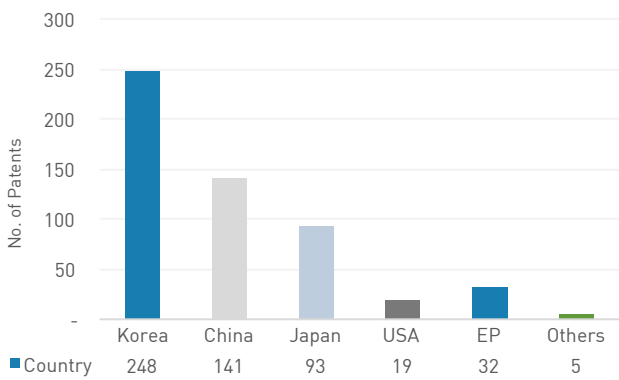


· Classify patents of a specific month and provide corresponding graphs

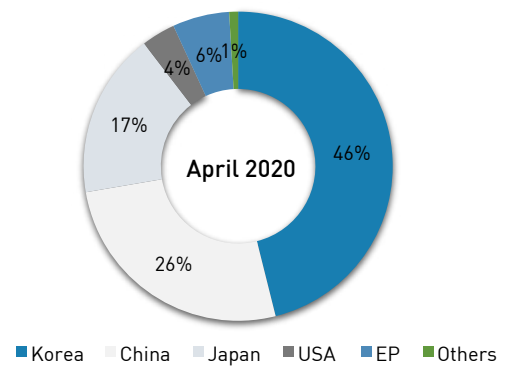
[No. of patents by specific applicants on April]



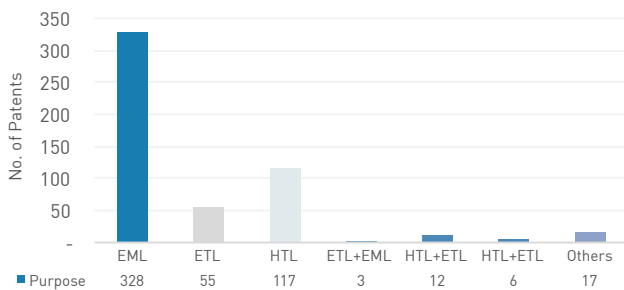
[No. of patents by nation of applicants on April]



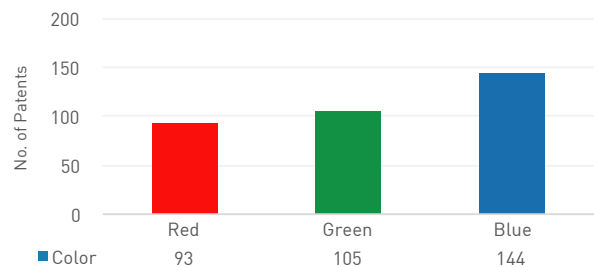
[Patents ratio by nation of applicants on April]



[No. of patents by purpose on April]



[No. of patents by color on April]



| OLED MATERIALS PATENTS REVIEW

- We provide OLED materials patents review of the specific company.

Ex

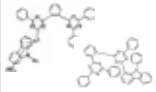
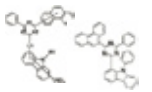
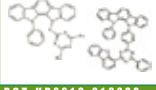
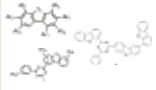
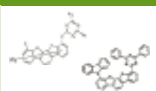
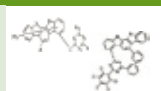
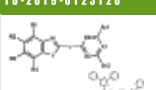
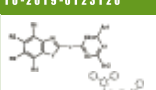
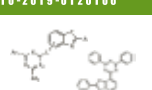
A MATERIAL COMPANY

OLED Materials Patents Review

April. 2020

- 16 patents of GH(green host) were filed. The most of them are triazine compounds with dibenzoxazole, di benzothiazole and carbazole, which have various combination of those substituents. And fused carbazole , fused benzoxazole with benzothiazole are introduced independently.
- The compounds with spiro[fluorene-9,7'-fluoreno[2,3-b]benzofuran] are filed. It can be used as EBL, GH, RH and ETL by changing the substituent of dibenzofuran side. And the compound with 6-(9H-carbazol-9-yl)benzo[4,5]imidazo[1,2-c]quinazoline has been registered, which can work as HTL, EBL, GH, and ETL.
- 9 patents of greenish dopants for TADF were filed.
- The benzocarbazole combine with pyrazino indole, furo/thieno/indeno pyrimidine or quinazoline was used for RH.
- The materials for soluble process are shown. 3 cases are for HIL and 5 cases for BH, which contains dibenzofuran, fluorene or spiro fluorene, connecting more than two anthracenes.
- Various material combination in the more than two function layers have been found in April. One of them is the combination of Boron dopants such as DABNA with two anthracene hosts.

Triazine

	KR 10-2019-0006175 CN 2019-80003801		CN 2019-80003808		
!"	Cz, ortho Ph-Tz		Cz, phenanthrene		
#S%&(!"	KR 10-2017-0087247				
)++)-	PCT PCT-KR2019-013830		KR 10-2016-0064158	KR 10-2019-0128490	KR 10-2019-0123117
	dDBF/DBT		Boro sp1-Ar	DBF/DBT-Cz/BI Insd Cz .O	DBF/DBT-4-oxazole/thiazole
#S%&(!)+(1)*	KR 10-2019-0121501		KR 10-2019-0122949	KR 10-2019-0122948	
23425&,6784%	KR 10-2019-0123120		KR 10-2019-0120106		
	L-2-benzoxazole/thiazole		L-benzoxazole/thiazole		

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