

Legal Document Analysis Workshop

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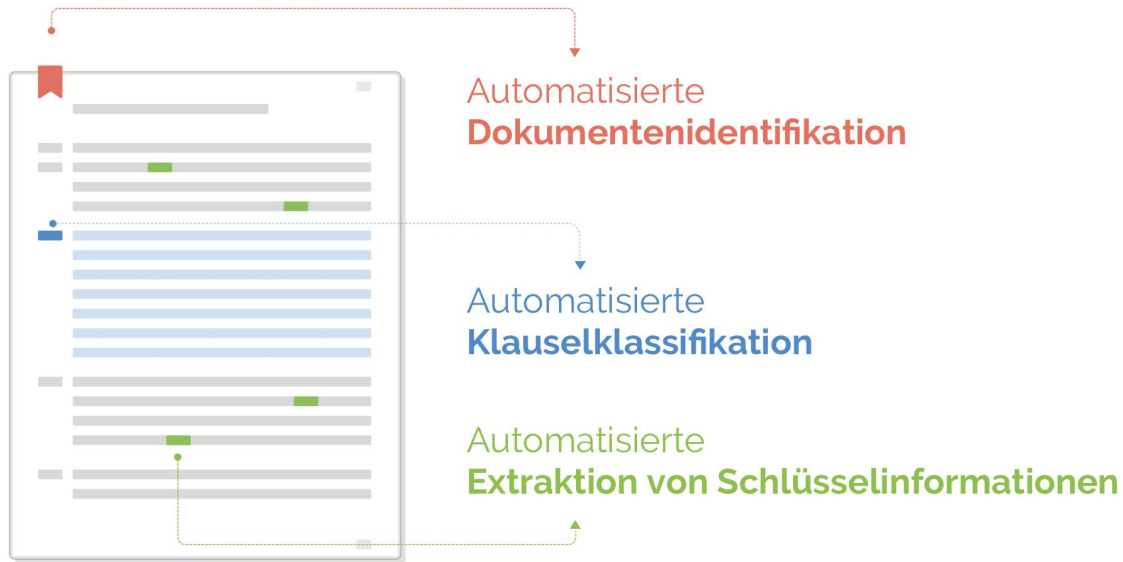
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Swiss Legal Tech Conference

3 September 2019



Was macht Legartis?



Manuelle Vertragsanalyse

- 10 NDAs in 5 min
- Bitte prüfen Sie welche Verträge Sie unterschreiben können mit folgenden Vertragsregeln:
 - Das geltende Recht soll **schweizerisches Recht** sein.
 - Der Gerichtsstand soll **Zürich** sein.
 - Der Vertrag soll ein **Rückgabe-/Löschungs- oder Zerstörungspflicht** enthalten.
 - Der Vertrag soll **kein nachvertragliche Pflichten** enthalten.
 - Der Vertrag soll **kein Konventionalstrafe über 10'000 CHF** erhalten.



Vertragsanalyse mit Legartis

<https://app.legartis.ai/>



Trainingsprozess - Begriffserklärung

- **Classifier:** unsere künstliche Intelligenz die Verträge analysiert
- **Segment:** ein Satz, wie vom Classifier erkannt
- **Provision Type (PT):** Klauseltyp - ein definiertes Label das wir verwenden für den Trainingsprozess
- **Ontologie:** unsere Liste aller verfügbaren Klausel Typen.
- **Annotieren:** das Anbringen von Provision Types auf Segmenten
- **IAA:** Inter Annotator Agreement - Übereinstimmung zwischen den Annotatoren



Trainingsprozess - Demo

<https://app.legartis.ai/>



- | Annotator 6 | | | | Annotator 7 | | | |
|-------------|------|---------|-----------|-------------|---------|-----------|---------|
| | F1 | Support | Precision | F1 | Support | Precision | Support |
| 0.92 | 0.93 | 0.92 | 0.92 | 0.75 | 0.83 | 0.82 | 0.71 |
| 0.72 | 0.88 | 0.79 | 0.84 | 0.83 | 0.83 | 0.82 | 0.71 |
| 0.91 | 0.98 | 0.94 | 0.98 | 0.99 | 0.97 | 0.98 | 0.92 |
| 0.76 | 0.66 | 0.77 | 0.81 | 0.81 | 0.65 | 0.71 | 0.84 |
| 0.77 | 0.81 | 0.77 | 0.86 | 0.8 | 0.74 | 0.76 | 0.80 |
| 0.84 | 0.67 | 0.74 | 0.43 | 0.83 | 0.7 | 0.75 | 0.27 |
| 0.8 | 0.73 | 0.76 | 0.72 | 0.77 | 0.77 | 0.76 | 0.64 |
| 0.69 | 0.81 | 0.74 | 0.84 | 0.8 | 0.77 | 0.78 | 0.24 |
| 0.84 | 0.78 | 0.81 | 0.82 | 0.8 | 0.8 | 0.8 | 0.71 |
| 0.29 | 0.82 | 0.4 | 0.88 | 0.51 | 0.54 | 0.48 | 0.25 |
| 0.88 | 0.89 | 0.88 | 0.91 | 0.92 | 0.82 | 0.86 | 0.83 |
| 0.66 | 0.85 | 0.74 | 0.92 | 0.88 | 0.57 | 0.69 | 0.71 |
| 0.59 | 0.9 | 0.87 | 0.9 | 0.88 | 0.84 | 0.85 | 0.49 |
| 0.85 | 0.93 | 0.89 | 0.74 | 0.9 | 0.9 | 0.9 | 0.16 |
| 0.43 | 0.16 | 0.19 | 0.86 | 0.57 | 0.66 | 0.56 | 0.53 |
| 0.91 | 0.8 | 0.84 | 0.64 | 0.5 | 0.92 | 0.72 | 0.34 |
| 0.85 | 0.59 | 0.81 | 0.71 | 0.97 | 0.89 | 0.93 | 0.44 |
| 0.67 | 0.73 | 0.69 | 0.4 | 0.81 | 0.75 | 0.77 | 0.31 |
| 0.45 | 0.9 | 0.59 | 0.29 | 0.77 | 0.8 | 0.76 | 0.33 |
| 0.58 | 0.37 | 0.35 | 0.4 | 0.57 | 0.46 | 0.49 | 0.86 |
| 0.71 | 0.89 | 0.79 | 0.34 | 0.89 | 0.74 | 0.81 | 0.43 |
| 0.96 | 0.8 | 0.87 | 0.57 | 0.72 | 0.94 | 0.81 | 0.57 |
| 0.5 | 0.97 | 0.64 | 0.86 | 0.67 | 0.87 | 0.72 | 0.12 |
| 0.65 | 0.94 | 0.76 | 0.12 | 0.86 | 0.69 | 0.76 | 0.14 |
| 0.73 | 0.77 | 0.74 | 0.86 | 0.73 | 0.82 | 0.77 | 0.11 |
| 0.77 | 0.77 | 0.77 | 0.2 | 0.74 | 0.75 | 0.74 | 0.86 |
| 0.53 | 0.94 | 0.67 | 0.86 | 0.81 | 0.64 | 0.69 | 0.17 |
| 0.48 | 0.88 | 0.6 | 0.14 | 0.82 | 0.62 | 0.67 | 0.14 |

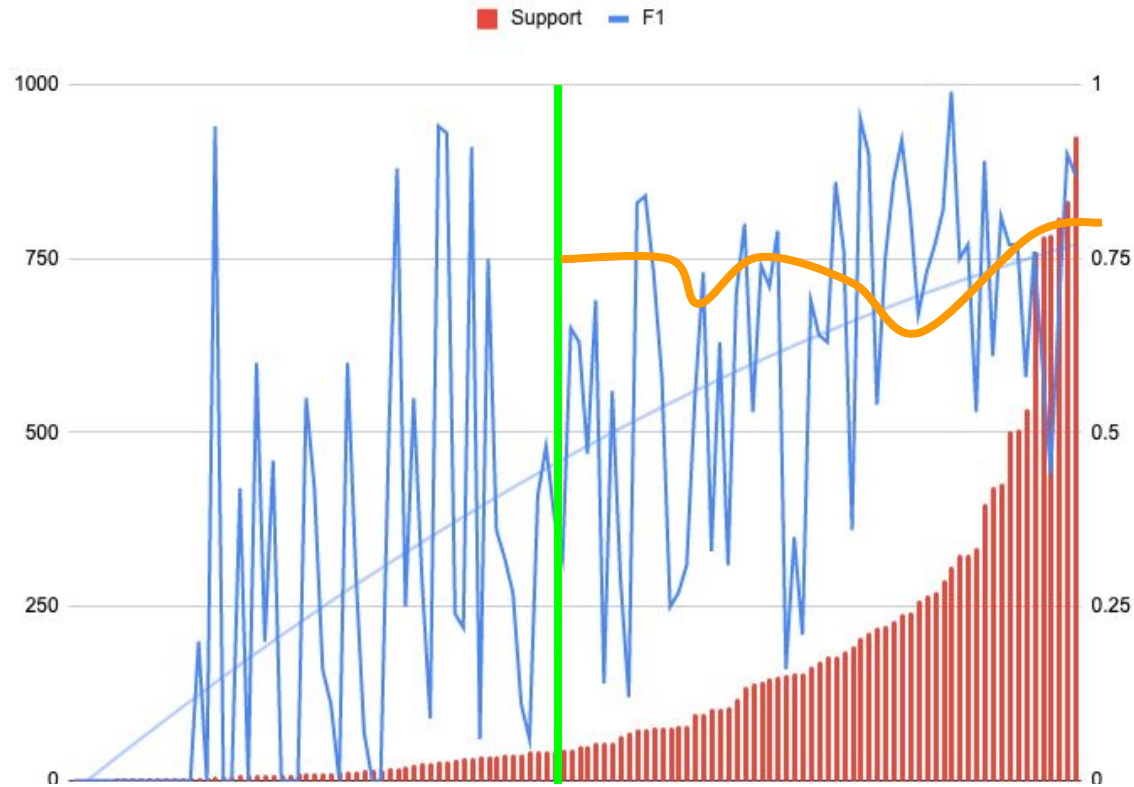
Label	Average				Annotator 1				Annotator 2				Annotator 3				Annotator 4				Annotator 5				Annotator 6				Annotator 7								
	Precision	Recall	F1	Support	Precision	Recall	F1	Support	Precision	Recall	F1	Support	Precision	Recall	F1	Support	Precision	Recall	F1	Support	Precision	Recall	F1	Support	Precision	Recall	F1	Support	Precision	Recall	F1	Support					
Schlichtvertragsformelndis	0.9	0.9	0.89	56.48	0.88	0.93	0.9	51.14	0.88	0.96	0.92	53.43	0.93	0.9	0.91	60.71	0.92	0.88	0.9	54.29	0.9	0.9	0.9	54	0.82	0.94	0.88	58.57	0.92	0.93	0.92	60.29	0.94	0.75	0.83	56	
Definitionen	0.9	0.8	0.87	0.84	0.85	0.87	0.84	0.83	0.84	0.87	0.84	0.83	0.84	0.87	0.84	0.83	0.84	0.87	0.84	0.83	0.84	0.87	0.84	0.83	0.84	0.87	0.84	0.83	0.84	0.87	0.84	0.83	0.84	0.87			
Nicht-Vertragsliche Information	0.97	0.97	0.96	36.68	0.96	0.94	0.95	34.16	1	0.93	0.96	32	0.96	0.98	0.97	34.14	0.94	0.98	0.99	0.96	31.57	0.97	0.98	0.97	31.71	0.99	0.96	0.98	34.14	0.91	0.98	0.94	33.86	0.99	0.97	0.98	32.14
Verweis auf Gesetzbestimmung	0.73	0.73	0.72	29.23	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
Vertragsbeziehung	0.73	0.73	0.72	27.18	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
Verweis innerhalb des Vertrags	0.73	0.73	0.72	27.18	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
IP-Recht	0.73	0.73	0.72	27.18	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
Gemeinschaftsrecht	0.73	0.73	0.72	27.18	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
Offenlegungspflicht	0.73	0.73	0.72	27.18	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
Gehaltsuntergrenze	0.73	0.73	0.72	27.18	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
Gehaltsuntergrenze	0.73	0.73	0.72	27.18	0.67	0.87	0.75	20.43	0.77	0.7	0.77	28	0.75	0.73	0.73	32.43	0.66	0.77	0.7	26.86	0.59	0.77	0.68	26.14	0.83	0.71	0.76	28.61	0.67	0.7	0.71	33.14	0.81	0.65	0.71	28.14	
Gehaltsunter	0.55	0.55	0.47	21.75	0.81	0.41	0.51	22.71	0.73	0.43	0.5	22.57	0.28	0.65	0.36	19.86	0.47	0.54	0.46	21.29	0.54	0.51	0.49	21.86	0.74	0.48	0.54	25.14	0.29	0.82	0.4	18.86	0.51	0.54	0.48	21.73	
Rückgabe-/Löschung- oder Zerstörungspflicht	0.91	0.91	0.9	19.05	0.91	0.98	0.94	18.43	0.96	0.84	0.9	18.14	0.91	0.95	0.93	21	0.84	0.96	0.9	17.57	0.91	0.92	0.92	17.86	0.92	0.89	0.9	20.29	0.88	0.89	0.88	20.71	0.92	0.82	0.86	18.43	
Zweck der Offenlegung	0.74	0.74	0.72	18.93	0.69	0.77	0.72	18.29	0.71	0.71	0.7	18.57	0.69	0.84	0.75	19.14	0.74	0.64	0.68	18.80	0.71	0.83	0.76	18.14	0.81	0.7	0.74	19.71	0.66	0.85	0.74	19	0.88	0.57	0.69	19.71	
Offenlegung	0.92	0.92	0.92	16.93	0.96	0.95	0.95	16.14	0.91	0.91	0.91	16.14	0.95	0.94	0.94	17.86	0.86	0.97	0.91	15.86	0.97	0.9	0.93	16.29	0.97	0.89	0.92	18	0.85	0.93	0.89	17.43	0.9	0.9	0.9	16.73	
Gehaltsuntergrenze	0.56	0.56	0.48	15.21	0.56	0.62	0.55	14.29	0.54	0.58	0.5	13.29	0.84	0.38	0.26	20.14	0.48	0.73	0.53	12.43	0.42	0.89	0.55	12.81	0.62	0.57	0.57	16.29	0.43	0.16	0.19	19.86	0.57	0.66	0.56	15.43	
Rückgabe des Vertragsgegenstands	0.92	0.92	0.92	16.93	0.96	0.95	0.95	16.14	0.91	0.91	0.91	16.14	0.95	0.94	0.94	17.86	0.86	0.97	0.91	15.86	0.97	0.9	0.93	16.29	0.97	0.89	0.92	18	0.85	0.93	0.89	17.43	0.9	0.9	0.9	16.73	
Schlichtverfahren	0.92	0.92	0.92	16.93	0.96	0.95	0.95	16.14	0.91	0.91	0.91	16.14	0.95	0.94	0.94	17.86	0.86	0.97	0.91	15.86	0.97	0.9	0.93	16.29	0.97	0.89	0.92	18	0.85	0.93	0.89	17.43	0.9	0.9	0.9	16.73	
Eigentumsregelung	0.78	0.78	0.77	13.57	0.89	0.74	0.8	13.86	0.9	0.74	0.81	13.57	0.67	0.91	0.77	13.43	0.65	0.87	0.74	12.71	0.84	0.83	0.82	13.29	0.82	0.67	0.73	14	0.67	0.73	0.69	14	0.81	0.75	0.77	13.71	
Datenschutzrecht	0.73	0.73	0.68	13.33	0.79	0.68	0.7	13	0.87	0.68	0.74	13.14	0.74	0.62	0.65	14.43	0.81	0.77	0.76	12.87	0.47	0.85	0.59	11.57	0.94	0.54	0.67	14.29	0.45	0.9	0.59	12.29	0.77	0.8	0.76	13.43	
Gehaltsuntergrenze Neutral	0.67	0.67	0.64	11.57	0.75	0.65	0.7	12.57	0.64	0.68	0.67	12.71	0.68	0.7	0.69	12.71	0.68	0.7	0.69	12.71	0.68	0.7	0.69	12.71	0.68	0.7	0.69	12.71	0.68	0.7	0.69	12.71	0.68	0.7	0.69	12.71	
Battle-Of-Forms	0.8	0.8	0.8	12.59	0.72	0.81	0.76	12.29	0.81	0.75	0.77	12	0.76	0.81	0.78	13.86	0.87	0.81	0.83	12	0.79	0.88	0.83	11.71	0.88	0.73	0.8	13.29	0.71	0.89	0.79	13.14	0.89	0.74	0.74	0.81	12.43
Mitteilungen	0.85	0.85	0.83	12.11	0.91	0.84	0.87	12.14	0.86	0.87	0.86	12	1	0.65	0.79	12.86	0.77	0.93	0.83	11.71	0.78	0.87	0.82	11.86	0.77	0.87	0.82	12.14	0.96	0.8	0.87	12.57	0.72	0.94	0.81	12.57	
Vertrag	0.72	0.72	0.66	12.05	0.76	0.27	0.4	13	0.84	0.59	0.66	12.43	0.6	0.79	0.71	11.81	0.72	0.73	0.74	12.14	0.77	0.75	0.72	12	0.83	0.65	0.69	12.29	0.5	0.97	0.84	10.86	0.67	0.87	0.72	12	
Vertrag über den Vertrag hinaus	0.79	0.79	0.78	11.05	0.84	0.84	11.14	0.72	0.84	0.81	0.78	11	0.85	0.84	0.79	11.21	0.84	0.67	0.74	11.57	0.86	0.81	0.69	11.76	0.72	0.76	11.29	0.69	0.87	0.76	11.29	0.69	0.87	0.76	11.29		
Vertragsbeginn	0.78	0.78	0.77	11.05	0.79	0.81	0.8	10.86	0.86	0.82	0.71	11.29	0.77	0.92	0.83	11.86	0.84	0.78	0.81	11	0.68	0.83	0.75	10.57	0.83	0.69	0.75	12	0.73	0.77	0.74	11.86	0.73	0.82	0.77	11	
Verzicht	0.79	0.79	0.78	11.05	0.86	0.82	11.29	0.77	0.95	0.8	10.43	0.9	0.75	0.82	12.29	0.66	0.81	0.72	10.57	0.84	0.78	0.81	11	0.84	0.7	0.76	12	0.77	0.77	0.77	12	0.74	0.75	0.74	10.86		
Konkurrenzverbot	0.78	0.78	0.77	11.05	0.86	0.82	11.29	0.77	0.95	0.8	10.43	0.9	0.75	0.82	12.29	0.66	0.81	0.72	10.57	0.84	0.78	0.81	11	0.84	0.7	0.76	12	0.77	0.77	0.77	12	0.74	0.75	0.74	10.86		
Haftungsgründe	0.68	0.68	0.61	10.57	0.89	0.36	0.5	11.14	0.75	0.67	0.67	10.57	0.71	0.6	0.62	11.43	0.51	0.85	0.6	9.57	0.47	0.88	0.58	9.29	0.82	0.6	0.66	11.29	0.48	0.88	0.6	10.14	0.82	0.62	0.67	11.14	

Classifier - Begriffserklärung

- **Precision:** Wie viele der gewählten Segmente sind relevant?
- **Recall:** Wie viele der relevanten Segmente wurden gewählt?
- **F1-Score:** Durchschnitt von Precision und Recall
- **Support:** Wie viele Segmente von diesem Typ gibt es?



Classifier - Datenübersicht

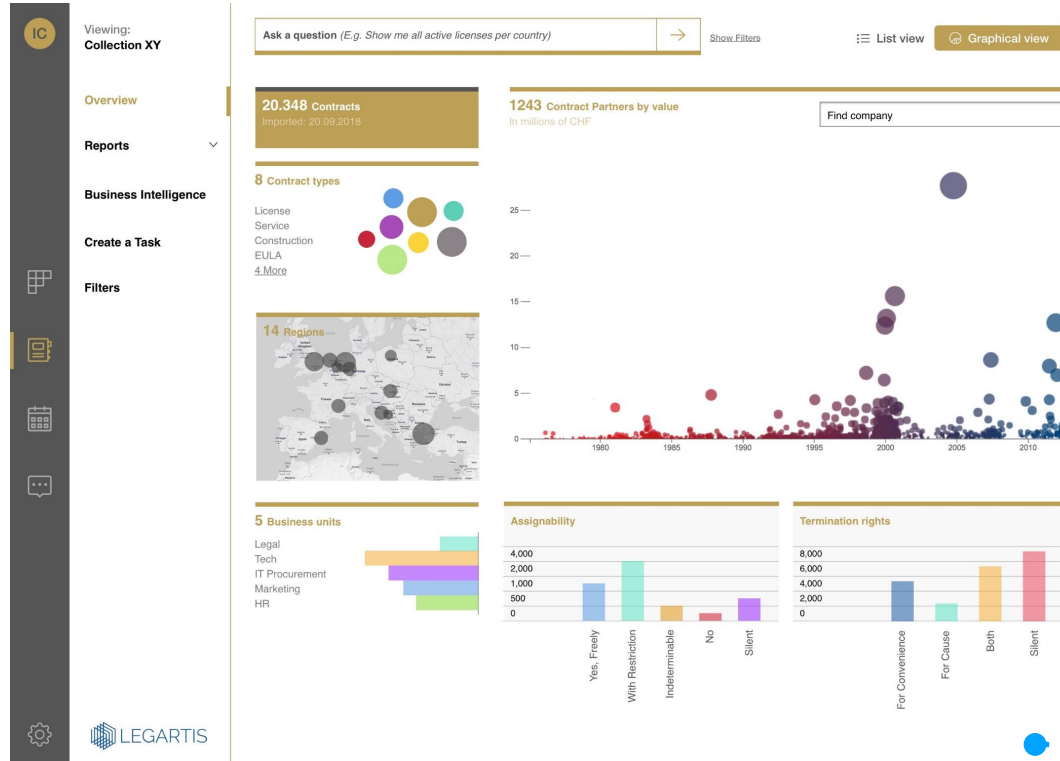


Classifier - Datenübersicht

ProvisionType	Precision	Recall	F1	Support
Salvatorische Klausel	0.99	0.99	0.99	308
Rechtswahl	0.95	0.94	0.95	205
Konventionalstrafe	0.84	0.88	0.86	180
Eigengebrauch	0.7	0.87	0.77	506
Zweck der Offenlegung	0.49	0.73	0.58	535
Vergütung	0.08	0.06	0.07	15



Ausblick: Contract Intelligence



Überblick über
alle Daten

Neue Einsichten in
existierende Verträge

Vereinfachtes
Management der

Dokumente

Ausblick: Contract Search

IC

Viewing: Collection XY

Overview

Reports

Business Intelligence

Create a Task

Filters

LEGARTIS

Which Contracts do I need to amend due to GDPR

Show Filters

License Agreements
Service Agreements
Time range: 2001 to 2016
GDPR subject: Personal Information

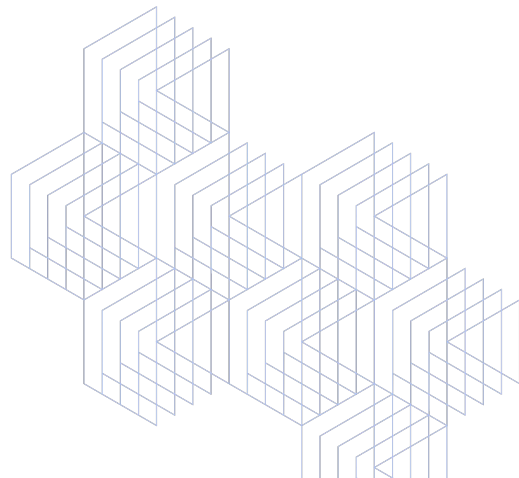
3,201 Results found:

Document View Provision View

Share Export

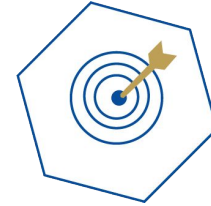
Contract type: License	2005	Legartis AG	1 GDPR Risks	2 Comments	
2. Fusce nec risus ac lectus bibendum sodales sit amet sed diam. Quisque porta sem ultrices sapien faucibus dapibus. Mauris sem libero, cursus ut dictum quis, accumsan vitae risus. Aliquam ac rutrum enim. Curabitur eu purus tincidunt, consectetur neque at, hendrerit libero.					
Contract type: License	2009	DeinDeal AG	256 GDPR Risks	4 Comments	
2. Fusce nec risus ac lectus bibendum sodales sit amet sed diam. Quisque porta sem ultrices sapien faucibus dapibus. Mauris sem libero, cursus ut dictum quis, accumsan vitae risus. Aliquam ac rutrum enim. Curabitur eu purus tincidunt, consectetur neque at, hendrerit					
Contract type: Service	2007	Baumarkt GmbH	45 GDPR Risks		
2. Fusce nec risus ac lectus bibendum sodales sit amet sed diam. Quisque porta sem ultrices sapien faucibus dapibus. Mauris sem libero, cursus ut dictum quis, accumsan vitae risus. Aliquam ac rutrum enim. Curabitur eu purus tincidunt, consectetur neque at, hendrerit libero.					
Contract type: Service	2013	Swiss AG	1 GDPR Risks	23 Comments	
2. Fusce nec risus ac lectus bibendum sodales sit amet sed diam. Quisque porta sem ultrices sapien faucibus dapibus. Mauris sem libero, cursus ut dictum quis, accumsan vitae risus. Aliquam ac rutrum enim. Curabitur eu purus tincidunt, consectetur neque at, hendrerit libero.					

Sofortiger Zugriff auf relevante Klauseln



As easy as 1, 2, 3

1. Wir helfen Ihre Ziele zu definieren.
2. Wir analysieren Ihre Dokumente.
3. Sie benützen Legartis.



Vielen Dank!

