SUPPLEMENTARY MATERIALS

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Figure S2. Histogram of frequencies of sTIL score in luminal breast cancer**.**

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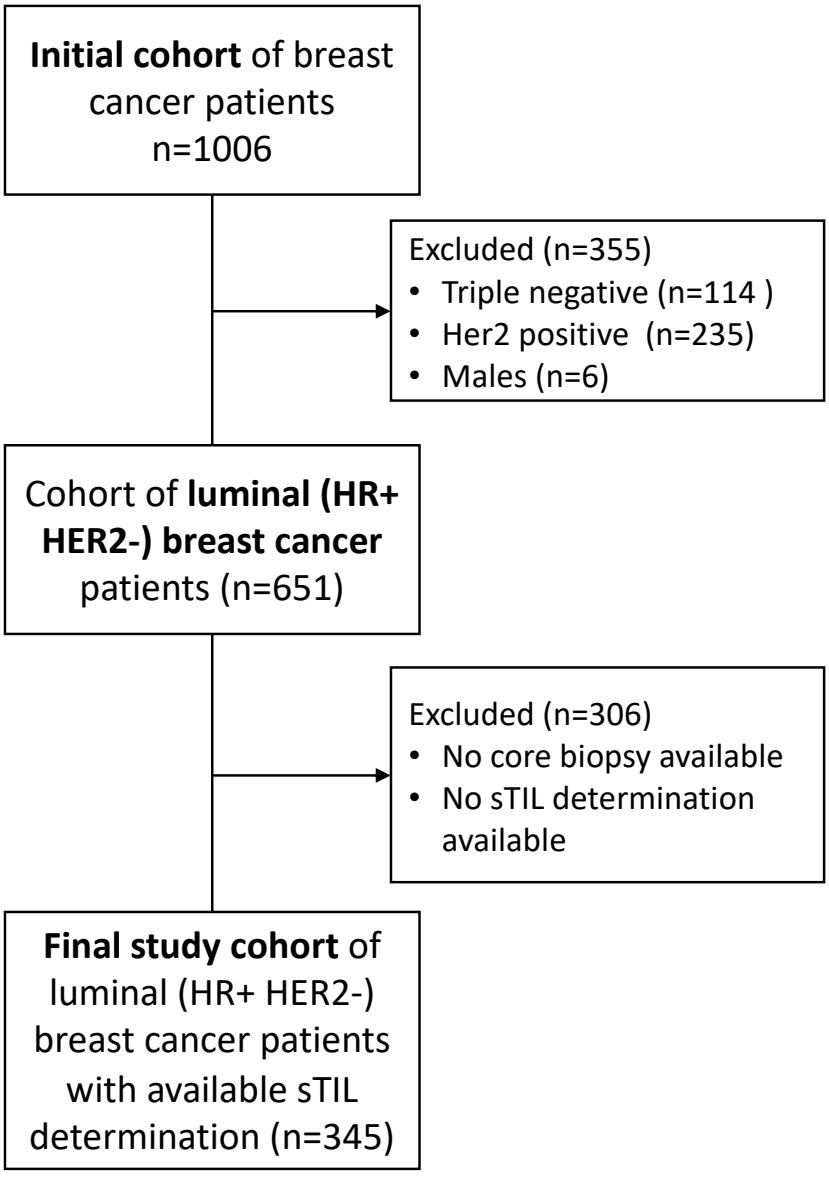
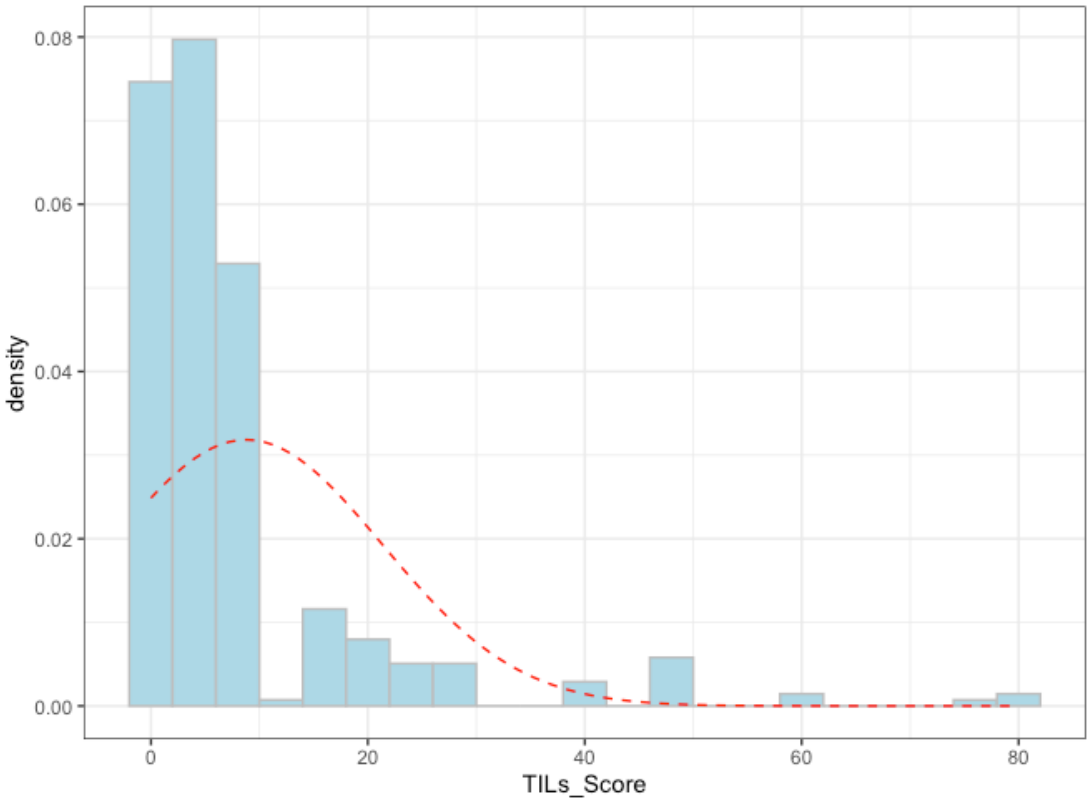


Supplementary Figure S1. Consort diagram of the study.



Supplementary Figure S2. Histogram of frequencies of sTIL score (percentage determined by standard methods [23, 24]) in luminal breast cancer. The red line represents the normal curve, reflecting a non-normal distribution.

Supplementary Table S1. Additional patient characteristics and sTIL distribution

	Total	sTIL		sTIL=0%	sTIL >0%	
Characteristic	**N (%)**	**Median (Q1, Q3)**	***P* value***	**N (%)**	**N (%)**	***P* value***
Total	345 (100%)	5 (0, 10)	--	100 (29.0%)	245 (71.0%)	--
Detection			<0.001			< 0.001
Symptoms	298 (86.4%)	5 (2.5, 10)		69 (69.0%)	229 (93.5%)	
Screening	47 (13.6%)	0 (0, 5)		31 (31.0%)	16 (6.5%)	
Ki67						< 0.001
<10%	57 (16.5%)	1 (0, 5)	<0.001	28 (28.0%)	29 (11.8%)	
>=10%	288 (83.5%)	5 (1, 10)		72 (72.0%)	216 (88.2%)	
LVI			0.880			0.997
No	161 (68.2%)	5 (0, 10)		58 (68.2%)	103 (68.2%)	
Yes	75 (31.8%)	5 (0, 10)		27 (31.8%)	48 (31.8%)	
pN/ypN			0.69			< 0.001
pN0	107 (31.1%)	0 (0, 5)		56 (56.0%)	51 (20.9%)	
pN1	37 (10.8%)	0 (0, 10)		19 (19.0%)	18 (7.4%)	
pN2	13 (3.8%)	5 (0, 5)		6 (6.0%)	7 (2.9%)	
pN3	1 (0.3%)	0 (0, 0)		1 (1.0%)	0 (0.0%)	
ypN0	49 (14.2%)	10 (5, 25)		5 (5.0%)	44 (18.0%)	
ypN1	71 (20.6%)	10 (5, 10)		7 (7.0%)	64 (26.2%)	
ypN2	37 (10.8%)	5 (5, 10)		4 (4.0%)	33 (13.5%)	
ypN3	15 (4.4%)	5 (5, 10)		1 (1.0%)	14 (5.7%)	
ypNx	14 (4.1%)	10 (6.2, 19)		1 (1.0%)	13 (5.3%)	
Setting						< 0.001
Neoadjuvant	187 (54.2%)	10 (5, 15)	<0.001	18 (18.0%)	169 (69.0%)	
Adjuvant	158 (45.8%)	0 (0, 5)		82 (82.0%)	76 (31.0%)	

*Differences assessed with the the Chi^2 test ; P values were adjusted for multiple comparisons (Benjamini-Hochberg method).

LVI: lympho-vascular invasion. pN/ypN: pathological N (node) stage.

Supplementary Table S2. Univariable logistic regression models for prediction of pCR after neoadjuvant chemotherapy in luminal breast cancer (N=187).

Model	**OR (95% CI)**	***P*-value***	**AIC**	**AUC ROC**
Histology (lobular)	0.00 (--)	0.318	111.6	0.526
Luminal B subtype	1.66 (0.30, 30.9)	0.613	113.0	0.518
PgR positive	0.29 (0.10, 1.01)	0.103	109.3	0.597
Ki67 (continuous)	1.06 (1.03, 1.09)	<0.001	87.5	0.822
Grade 3	4.77 (1.59, 17.6)	0.021	105	0.682
cT size (continuous, cm)	0.99 (0.96, 1.01)	0.567	111.9	0.513
cN		0.613	113.6	0.582
cN1	0.43 (0.10, 1.74)			
cN2-3	0.61 (0.18, 2.18)			

**P*-values corrected for multiple comparisons (Benjamini-Hochberg method).
PgR: progesterone receptors. cT size: clinical tumor (cT) size (cm). cN: clinical nodal stage.

Supplementary Table S3. Multivariable Cox regression models for RFI in luminal breast cancer.

Models	HR (95% CI)	*p*-value	AIC	C-index	LRT *p*-value
Model 1 = T size + N+ (nr) + PgR					
T size (cm)	1.02 (1.00, 1.03)	0.003	399.0	0.76	Model 1 (reference)
Number of positive nodes	1.09 (1.03, 1.15)	0.001			
PgR (positive)	0.39 (0.19, 0.84)	0.016			
Model 2 = T size + N+ (nr) + PgR + sTIL					
T size (cm)	1.02 (1.01, 1.03)	0.002	393.1	0.75	Model 2 vs model 1, *p*=0.005
Number of positive nodes	1.09 (1.04-1.15)	0.001			
PgR (positive)	0.33 (0.16, 0.69)	0.004			
sTIL (>0%)	3.38 (1.28, 8.99)	0.014			

PgR: progesterone receptors. cT size: clinical tumor (cT) size (cm).

Supplementary Table S4. Multivariable Cox regression models for OS in luminal breast cancer.

Models	HR (95% CI)	*p*-value	AIC	C-index	LRT p-value
Model 1 = N+ (nr) + KI67					
Number of positive nodes	1.13 (1.05-1.21)	< 0.001	186.6	0.79	Model 1 (reference)
Ki67 (continuous)	1.04 (1.02, 1.06)	< 0.001			
Model 2 = N+ (nr) + KI67 + sTIL					
Number of positive nodes	1.12 (1.04-1.20)	0.002	186.8	0.80	Model 2 vs model 1, *p*=0.19
Ki67 (continuous)	1.03 (1.01, 1.06)	0.001			
sTIL (>0%)	2.45 (0.55, 10.93)	0.238			

Supplementary Table S5. Multivariable Cox regression models for OS in luminal B breast cancer.

Models	HR (95% CI)	*p*-value	AIC	C-index	LRT p-value
Model 1 = T size + N+ (nr) + KI67 + PgR					
T size (cm)	1.01 (0.99, 1.03)	0.199	185.1	0.77	Model 1 (reference)
Number of positive nodes	1.12 (1.04-1.21)	0.002			
Ki67 (continuous)	1.03 (1.01, 1.05)	0.007			
PgR (positive)	0.46 (0.16, 1.34)	0.15			
Model 2 = T size + N+ (nr) + KI67 + PgR + sTIL					
T size (cm)	1.01 (0.99, 1.03)	0.179	185.3	0.79	Model 2 vs model 1, p=0.185
Number of positive nodes	1.12 (1.04-1.20)	0.003			
Ki67 (continuous)	1.03 (1.00, 1.05)	0.022			
PgR (positive)	0.43 (0.15, 1.28)	0.131			
sTIL (> 0%)	2.49 (0.55, 11.19)	0.233			

PgR: progesterone receptors. cT size: clinical tumor (cT) size (cm).